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General Scientific

THE CLINICAL ASPECTS OF SYPHILIS.*

HENRY H. MORTON, M. D.,

CLINICAL PROFESSOR OF GENITO-URINARY DISEASES IN THE LONG ISLAND COLLEGE HOSPITAL, AND GENITO-URINARY SURGEON TO LONG ISLAND COLLEGE AND KINGS COUNTY HOSPITALS, THE POLHEMUS MEMORIAL CLINIC, ETC.

Brooklyn, N. Y.

Instead of operating this afternoon, I am going to show some patients and say something about syphilis.

The history of my first patient is brief. He says that two days after connection he developed a sore on his glans. He had the sore two and a half weeks and was treated with some local application. Then he came to the hospital. Of course, two days is not the incubation of syphilis, but the incubation of chancroid, so the duration of the incubation, which is short, probably opens up the question of the mixed sore. Very likely, he was inoculated with a double virus, the bacillus of Ducrey and the spirochaeta pallida at the same moment by the same woman, so that the chancroid developed in two or two and a half days and the chancre probably about two and a half or three weeks later. He presents now a deep Hunterian chancre. You can see the large amount of induration in the sore as he rolls back the foreskin. Furthermore, he has the typical rosary form of glands in the groin and also in the epitrochlear and post-cervical regions, and as you look at the skin you will observe a slight mottling. A rash is about to appear. He has some alopecia and the hair comes out in round patchy bald spots, like the case I showed you a few days ago where the man's hair had a sort of moth-eaten appearance. This case represents the primary lesion of syphilis.

The next case I will show you represents one of the characteristic typical secondary lesions which we speak of as condylomata, or condylomata lata. You can see the appearance of the condylomata situated around the anus and they are very characteristic. They are cleared up a good deal now, but at first they were very marked. This man shows no other lesion at present except his healing condylomata.

* Clinical lecture at Long Island College Hospital.

The next patient I present is the man who had the ulceration of the nose, and whom I showed you a couple of weeks ago. You can see the effect of salvarsan. It stopped the ulcerative process. You see the ulceration of the palate. That is very typical and represents the tertiary lesion.

Now, then, we have had today a primary sore, a secondary lesion of condylomata and a tertiary lesion of ulcerative bone processes, all very typical.

This little brown man, came in with an attack of gonorrhea and something about the case suggested that he might have syphilis, too, because he stated to the doctor that some seven months ago he had a sore on his penis. The question is, Has he only a gonorrhea or syphilis as well?

The diagnosis of latent syphilis used to be a thing which presented a great deal of difficulty. What we would do in the examination of a case of latent syphilis would be to first look for the glands. There are certain places where these glands are found. The first place to feel is the back of the neck. We feel them by what is called the policeman's grip. It is given this designation in Germany because when a man is running away the "cop" is supposed to grab him by the nape of the neck and pull him back, so the policeman's grip comes naturally in the examination of cases of syphilis. The hand now slips down in the right epitrochlear region and I find the gland distinctly enlarged. Then we look for the double rosary in either groin region. Paramamillary glands are occasionally found—only once in ten times, but when found they are very diagnostic. We examine the patient for scars, examine the periosteum, examine for traces of an eruption, particularly about the neck. There is nothing to be found there. Then we look in the mouth to see if there are any changes. Nothing is to be found in the mouth.

Now up to within a few years ago that was the only examination we could make. Then the question still remained open as to whether or not the patient had syphilis, but since the introduction of the Wassermann test we are in position to say positively in any case of latent syphilis whether the patient is syphilitic and the

diagnosis in those cases where there are no clinical signs must rest on the laboratory diagnosis. We will send the blood of this man to the Hoagland laboratory for a Wassermann and that will aid us in diagnosing the case.

That brings me to the subject of the newer and more recent developments which have arisen in connection with the subject of syphilis.

Syphilis, while not so prevalent, is constantly on the increase and some of the best observers estimate its frequency in Paris as *one in seven* of the adult population. In a conversation with one of the three or four leading dermatologists of New York City a year ago he told me that among the better class families, which he knew intimately, as physician or friend, at least one-third of the sons of adult age had syphilis. To the account of syphilis must be laid all the cases of true *locomotor ataxia* and those of *general paresis*. Two per cent. of all syphilitics and over twenty per cent. of tertiary cases develop cerebrospinal lesions. Over *forty per cent.* of all *abortions* not artificially produced are caused by syphilis, and sixty to eighty per cent. of syphilitic children die in utero or soon after birth. It would be fortunate, both for the individuals and humanity at large, did all cases of hereditary syphilis suffer the same fate.

Another feature of syphilis which renders it, although less frequent than gonorrhea, more terrible in its results, is that it is not *purely a sexual disease*. It is often acquired in the most *innocent manner*, being communicable by the use of drinking glasses and other table implements, wetting pencils in the mouth, by surgical and dental instruments, and above all, by kissing. Many physicians are infected in the practice of surgery and obstetrics.

With those facts in mind it shows the desirability and importance of having a very thorough knowledge of syphilis.

In recent years there are four new facts that have been discovered in connection with syphilis which have revolutionized the treatment, diagnosis and study of the disease.

These four facts are:

First, the possibility of inoculating animals with syphilis.

Second, the discovery of the *spirocheta pallida* as being the etiological factor.

Third, the serum diagnosis by means of the Wassermann test; and

Fourth, the treatment by means of salvarsan.

Those facts have taught us more about syphilis in the last six or eight years than we knew in the four hundred years in which syphilis was studied previously.

The chapter on experimental syphilis, which is a very large one, opened up a great field. In 1903, Metchnikoff and Roux, of Paris, inoculated chimpanzees and other monkeys, causing the characteristic symptoms of syphilis. In the higher apes the course of the disease represents closely that of human syphilis and having found that apes could have syphilis, experiments were tried with other animals, such as rabbits, dogs and sheep. They found that they also could be inoculated with syphilis and the disease was studied in these animals as well as in monkeys.

One word about the phenomenon of superinfection, as it is called. Technically, it was formerly thought that an additional infection was impossible; that is to say, that when a man had syphilis he could not be infected with other syphilis and that he was perfectly immune at the time. That is not the case. A syphilitic

can be re-inoculated, re-infected from his own lesions and also from the lesions of other syphilitics. The symptoms following re-inoculation are less severe as the case progresses, but it can be done and a man can develop a succession of chancres by inoculation. That is a new point also.

It has also been found by these animal experiments that the channel of infection must be a surface which is covered with squamous epithelium. For that reason a superficial wound acquired during the course of an operation is more dangerous than a deep puncture from a cut with a knife. It is easier to inoculate a man during an operation while operating on a syphilitic by scraping off some of the squamous epithelium than it is by sticking him deeply, which explains the reason why a good many of us have escaped so long.

Neisser made some interesting experiments on animals. He rubbed syphilitic material into the tonsils and conjunctiva and nasal mucous membrane and injected it subcutaneously, intravenously and made some intraperitoneal inoculations and found that they were all unsuccessful, but where he inoculated the spirochetæ in the skin by rubbing them on the epithelium, the vaccinations took every time.

Of course, the beginning of the great move in the diagnosis of syphilis was the discovery and morphology of the *spirocheta pallida*. That took place in 1905 by Schaudinn and Hoffmann, two young men working in Germany. Hoffmann was an assistant of Lesser's in Berlin and Schaudinn was an assistant in one of the bacteriological laboratories. Hoffmann furnished the material from the clinics and Schaudinn did the technical work and together they discovered the organism of syphilis, which, until that time, had been sought in vain by all other observers.

Now as to the occurrence of the *spirocheta* in various lesions. We may make the broad statement that every lesion of syphilis, whether secondary or tertiary, contains the *spirocheta*. It is found abundantly in the chancre. It is found in the primary roseola. It is found in all the secondary cutaneous lesions, mucous patches, ulcers of the mucous membrane and to some extent in the circulating blood, but not so freely, particularly if the disease has lasted for some little time. The *spirochetæ* are found readily in the lymphatic glands and they are also found in the internal organs of the body.

Let me repeat, then, that every lesion is caused by the irritation which is caused by the *spirochetæ* deposited at that particular point. If you will just bear that in mind it will help you to understand somewhat the pathology of the lesions. The whole body is charged with the *spirochetæ*. There are countless myriads of them circulating through the blood and lymph and finally they are deposited at certain points which we may speak of as predilection points. In the early stage of the disease they are in the chancre and secondary lesion and are deposited in the mucous membrane and a syphilitic lesion will appear. After a time they die out and the lesion clears up and then there is a period of temporary abatement and a few months later other lesions appear and a relapse occurs, but all the relapses are due to the presence of *spirochetæ* at the particular point where the relapse shows itself. The favorite locations are the walls of the blood-vessels and the neighboring tissues, so in cutting out a lesion from the skin, we often find the *spirochetæ* particularly in the walls of the capillaries and vasa vasorum.

In tertiary syphilis they are also present, but are

rather difficult to find in the gummata because they exist only in the hard margins and edges. It was not until Levaditi made his sections and stained the margins and the edges with his method of nitrate of silver stains that the spirochetæ were discovered and then it was found that they lay at the margins of the periphery of the tertiary lesions. His discovery cleared up that point in the pathology of tertiary syphilis.

Congenital syphilis is a form of spirocheta sepsis; that is to say, an acute invasion of the body. The entire system is overwhelmed by the numbers of the organisms, just as they are in the adult, and they are deposited in all the organs of the body.

We will consider the methods of obtaining the spirocheta from the primary sore. The irritation serum method is the one generally in use. It is a convenient and practical method of using it.

The sore is first washed off with salt solution, then it is rubbed vigorously with a piece of gauze. At first there is a flow of blood which soon ceases and then the serum begins to ooze out from the deeper parts.

As the spirochetæ lie in the deeper parts of the sore, the serum brings them to the surface. Smears of the serum are made on glass slides and covered and when examined with the dark field illumination we can see them moving about, in the serum with undulating movements.

Dark field illumination is the most convenient and practical clinical method of finding the spirocheta. The India ink method of Burri can also be used when one does not have the dark field, or the dried specimens can be stained with Giemsa stain and examined. The dark field is the method used in the clinics.

The modern view of syphilis is that it is an overwhelming of the entire body at the beginning of the secondary period with spirochetæ which remain in the tissues suitable for their growth and pabulum. In most of the situations they are destroyed by the effects of treatment, by which I mean, the antibodies which are formed, or by phagocytosis, but just how we do not know. Perhaps all these three methods have more or less to do with ridding the body of the spirochetal invaders. Those not destroyed remain in certain spots, irritation occurs and they form a lesion at the point of deposit. For instance, some of the spirochetæ are deposited in the brain, remain there and cause irritation and general paresis is the result. That is the most recent discovery in regard to the location of the spirochetæ made by Noguchi only a few months ago, and now the etiology of that very much vexed pathological question has been cleared up by his experiments.

All the early and late lesions of syphilis, such as tabes, cerebral and visceral syphilis, are known now to be the result of spirochetæ which remain latent in those organs from the time of the original infection.

We now come to the consideration of the inoculation and course of syphilis. After the inoculation of syphilis there are no symptoms for about three weeks. The spirochetæ are few in number, but as they increase they cause a local irritation and chancre appears. The spirochetæ lie in the lymph spaces and are protected against phagocytosis and cannot be reached by the lymphocytes.

Neisser's experiments on animals show that the spirochetæ leave the infected area shortly after inoculation and that they invade the surrounding tissues and travel so rapidly that after a period of twelve hours they have gone so far that excision of the original point of inoculation is useless to prevent the spread of the spiro-

chetæ. That has a practical bearing because years ago it was thought that syphilis might be prevented by excising the chancre after it appeared, but Neisser found that within twelve hours after the inoculation it was too late to remove all the spirochetæ and that some of them were out of reach of the excision.

His second experiment was that the internal organs of monkeys contained the virus even in the incubation period, showing that the spirochetæ spread very rapidly and that they get up into the internal organs before the chancre appears; that is, before the period of primary incubation of three weeks have elapsed.

He found the spirochetæ in the blood on the fifth day and in the spleen on the twelfth day.

After the spirochetæ have been increasing in the chancre they spread along the lymphatic and perivascular spaces until they reach the blood in great numbers and the spirochetæ then, in the period from the time that the secondary rash appears, are found abundantly in the blood and blood-vessels, especially the vasa vasorum, which is a favorite location for them. They seem to lie there and find a convenient resting place out of reach and remain there for an indefinite length of time. This accounts, then, for the usual endarteritis and periarteritis, which is so typical and constant in all cases of syphilis.

The lymphatic glands then undergo progressive enlargement.

Blood saturation is announced by the prodromata, such as headache, backache and pains in the bones; then eruption appears and mucous patches begin to be found in the mouth and around the anus, and, finally, the Wassermann, which had before been negative, now becomes positive. The eruption remains on the skin and then disappears and a period of latency is ushered in. During this period of latency there are no symptoms at all clinically as in the little brown man I showed you, and the only thing by which to detect syphilis is the Wassermann reaction and that remains positive. After a few months of latency a relapse occurs and then an untreated case will run along and periods of latency with relapses will alternate and each relapse becomes more severe. The tendency for the relapse is to attack the deeper organs and spread and ulcerate and not clear up as do the earlier lesions. In cases which are well treated the relapses cease after one to three years and the Wassermann becomes negative. In a case not sufficiently treated the Wassermann remains positive, although there may not be any lesions, but there is always danger of relapses up to twenty or thirty years or even longer and the great danger in the tertiary lesions is that tabes and general paresis may develop, but since salvarsan has been used more cases have been cured and in a shorter period of time. The Wassermann may be negative in the blood and yet the spinal fluid may show an increase of globulin and an increase in the leukocytes, so in order now we say to make absolutely sure that a patient is cured of syphilis it is not enough to have merely a negative Wassermann in the blood, persistently negative for a matter of a year, but a spinal puncture must be made and the spinal fluid must be found to be free from evidences of syphilitic taint; that is to say, it must have fewer than six to eight leukocytes to the cubic centimeter, no increase of globulin, or no globulin at all, and a negative Wassermann. If we have those conditions, a negative Wassermann in the blood for a year or more and no discernible lesions, I think that we are safe in saying a man is cured of syphilis.

The stages of syphilis we have demonstrated here this afternoon. You first saw the primary stage, the case of the man with a big Hunterian induration.

The primary stage runs from the period of infection; that is, from the moment of connection until the general outbreak of symptoms. During the primary stage, the chancre and glands are the only signs of infection. The spirochetæ are increasing by this time and in eight to ten weeks they increase sufficiently so that the blood is overwhelmed.

The secondary stage is ushered in by the podromata, the secondary symptoms, such as the eruption, alopecia, mucous patches, and then the secondary period goes on for a matter of seven or eight months or a year, during which the periods of eruption alternate with periods of latency and finally the tertiary stage is reached.

We classify the third stage as tertiary, more because of the nature of the lesions, but there is really no hard and fast rule as to the line of demarcation between second and third stage of the disease.

The lesions of the third stage are more likely to affect the deeper parts, more likely to be destructive and less apt to disappear spontaneously as is the case in the secondary period.

The third stage has sometimes been spoken of as the stage of the formation of gumma and is characterized by the late nervous lesions, such as tabes, general paresis, spinal syphilis and the serious lesions of the viscera, syphilitic arteritis and syphilitic hepatitis.

The spirochetæ are present all this time and excite the lesions, but they are fewer than in the earlier stages and they are harder to find.

The main diagnostic aid in the third stage is, of course, the Wassermann reaction and in recent times we have come to depend not only on the blood Wassermann, but on the spinal puncture as well and the condition of the spinal fluid, and in all cases where there is a doubt as to the question of the presence of syphilis, if the blood Wassermann is negative and persistently negative and remains even negative after provocative injections of salvarsan, we should have recourse to spinal puncture to settle the question definitely as to whether syphilis is cured or is still active.

32 Schermerhorn Street.

THREE YEARS OF SALVARSAN TREATMENT IN SYPHILIS OF THE CENTRAL NERVOUS SYSTEM AND IN TABES.*

DR. GEORGE L. DREYFUS.
Berlin.

Neurologists gradually begin to realize that we possess in salvarsan a remedy much superior to all other preparations used so far in the treatment of cerebrospinal syphilis and tabes. We thoroughly understand why salvarsan treatment of syphilitic nerve diseases is slowly accepted. While primary lues can be treated according to general principles and the physician can be sure of results (at least in regard to the momentary influence on the symptoms), he is absolutely forced to individualize in order to obtain results in the salvarsan therapy of the diseases of the central nervous system. Not only does each stage of these diseases demand carefully thought out and special treatment for each person, but also each individual case. Any treatment following general rules is dangerous.

*Translated from *Muenchener medizinische Wochenschrift* No. 10, 1914, for THE MEDICAL TIMES by M. H. Rominger.

There is another reason why some authors have refrained from continuing the treatment with salvarsan: no improvement is noticeable after a few injections; on the contrary, the patient becomes worse, as will be the case in the beginning of the treatment of tabes by too large doses of salvarsan. Lasting therapeutic results are obtained with salvarsan in syphilitic diseases of the central nervous system only after long continued treatment resumed again and again at regular intervals.

For three years we have treated these diseases in our medical clinic according to certain fixed principles. At the end of treatment, we have tried to keep all our patients under observation, particularly as regards the control by the serum reaction and if possible by the lumbar puncture. In such a way alone we can determine the success of the treatment and if it becomes necessary to again institute treatment, we can do so before it is too late. The intense salvarsan-mercury therapy recommended by us, has been kept up in most part with a few variations, which will be mentioned later.

In these three years we have noticed the best results in those patients to whom we have given large doses of salvarsan. We have diminished the amount of the single dose and use hardly ever more than 0.4 gm., oftentimes a single dose of 0.3 gm. suffices. Nevertheless, we try to reach in a week an average dose of 0.7 to 0.8 gm.; in six to eight weeks of 4 to 5 gm. We would like to emphasize that in the course of the last few years, we have never observed the slightest damage by such large average doses given in relatively small single doses, not even when in a second, third or fourth treatment an average dose of 3 to 4 gm. had been reached.

In the last few years we have treated about 250 patients with more than 3,000 intravenous injections of salvarsan and only once, in the beginning of the salvarsan treatment, did we have a serious incident. This occurred in a case of meningo-cephalitis, which we were able to finally conquer.

The more careful we were in the course of the years to administer strictly individualized doses of salvarsan and mercury according to each case, the better did the patients stand the injections. Any kind of reaction after a salvarsan injection has for a long time been exceptional with our patients.

We prefer salvarsan and use neosalvarsan only when a mild salvarsan effect is desirable. In a syphilitic person whose nervous system is affected we have to deal with individuals quite different from those in the primary stage. The latter are mostly younger and stronger persons, whereas cerebrospinal lues and tabes appear after years of the presence of the disease in the body. These patients generally reveal changes in their organs which syphilis often causes.

It is evident that before the beginning of a salvarsan treatment a thorough examination of the internal organs should be made. The physician should not only treat the nervous system, but the entire body. From the result of such an examination depends the treatment.

Young and strong persons can stand a much different dosage than persons who are less resistant. In the latter cases the physician should carefully consider if it would not be better to treat with salvarsan alone instead of with the combined treatment. The age is also of importance. In persons over 60 years of age double precaution must be taken. If the patients are around 70, the physician should start a salvarsan treatment only where there is an absolute indication for it.

Diseases of the lungs, the circulatory system and the kidneys, which often appear with syphilitic symptoms of the nervous system, have to be specially considered.

Sometimes those patients suffer from tuberculosis of the lungs. If there is fever of 100° F. or more, no antiluetic therapy should be given. Afebrile patients and those with very little decrease in temperature can be treated, in case clinical and x-ray examination does not demonstrate that the process of the disease has gone too far. With patients with specific lung affections, the physician should be especially careful and should discontinue the therapy or decrease the single dose and prolong the time of administration, if evident fever reactions appear. We treat tubercular persons only with soluble mercury salts and with neosalvarsan, which they can stand better and mostly without reaction.

Diseases of the circulatory system are so often connected with syphilis of the central nervous system that we consider it very rare when they are not. Each patient with lues of the central nervous system should be examined with x-ray. If there exist slight changes of the circulatory organs, nothing need to be feared; greater discrepancies from the normal demand the greatest caution (treatment with soluble mercury salts for 14 days, then small doses of neosalvarsan at greater intervals). State of health, pulse rate and blood pressure must be controlled permanently. Too energetic treatment may cause great damage to the patient.

When the whole body has been properly prepared for the treatment, another important factor has to be considered: the state of the lues.

Each state demands a specially adapted treatment. The time of one treatment is from six to eight weeks with our patients. During this period there are administered, according to conditions, 3 to 6 gm. salvarsan ($4\frac{1}{2}$ to 9 gm. neosalvarsan), also 6 to 12 mercury injections in form of 40% calomel or 40% gray oil.

In the beginning we administered mostly 0.03 c.c. calomel or gray oil, then 0.05, seldom 0.07 to 0.1. We do not often use inunctions except when there are indications against the more intensely effective treatment by injections.

We have given salvarsan preparations with very few exceptions only to clinical patients and ordered 24 hours' rest in bed after the injection. For almost a year we have injected all salvarsan preparations in a concentrated form only and are well satisfied with this technic. We have in all treated: 24 premature cases of syphilis of the central nervous system in the secondary state (neuroresidives); 12 of these were treated once, 11 twice, and 1 three times; 125 late syphilis of the central nervous system (cerebrospinal syphilis); 102 if these were treated once, 20 twice, and 3 three times; 77 tabes of which 45 were treated once, 20 twice, 8 three times, 2 four times and 2 five times.

Early Syphilis of the Brain.

The state of lues of the central nervous system demands special consideration and demands also special therapeutic skill on the part of the physician. It is the most satisfactory study if the treatment is correctly carried out, because one can promise absolute cure to the patient if all conditions are fulfilled.

Method of Treatment.—Lumbar puncture. previous treatment with mercury, either inunction lasting about 10 days with 3 to 5 gm., or calomel or gray oil every third day 0.02 to 0.05 (about 4 to 5 injections). When there is no rise of temperature after repeated mer-

curial injections, the combined treatment of salvarsan may then be started, beginning with neosalvarsan (0.15). If there is no fever, the dose may be increased the next day to 0.3. If this is also taken without reaction, 0.45 may be injected on the third day and on the fifth 0.6. If the temperature rises above 98.6° F. it is best to reduce the next dose, but do not increase it by any means. Occasionally $1\frac{1}{2}$ to 2 gm. neosalvarsan must be injected until the temperature does not rise above 98.6°, after the injection. When this is the case, salvarsan can then be administered beginning with the lowest dose of 0.1 or the highest of 0.4.

When neosalvarsan has been introduced in the treatment, the mercury injections may be stopped until single doses of 0.6 can be given without reaction. Salvarsan can then be administered in doses of 0.1 to 0.4 and mercury in 1 to 2 day intervals as stated above.

If later on there should be rise in temperature after an injection, two days must elapse in which there is no fever before treatment is resumed, and then the dose must be lower.

We consider lumbar puncture before the beginning of the treatment of a neuroresidue as very desirable as its results reveal the anatomic condition of the central nervous system.

We recommend neosalvarsan as an introduction to the treatment with salvarsan in early syphilis of the brain, because two of our patients, although they had been treated previously with mercury, had high fever and delirium of 12 hours' duration after 0.1 of salvarsan. We never observed such incidents after neosalvarsan.

The question of the total dose and the duration of the first course of treatment must be decided individually. If the physician is sure that the patient will remain under observation and that if necessary a second course will follow the first one after 6 to 8 weeks interval, 4 to 5 gm. salvarsan will suffice during a period of 6 to 8 weeks. Yet in most cases the patient will undergo a second course only when pain forces him to do so. Therefore, it is often recommendable to prolong the first intense treatment as long as possible (under certain condition to 3 or 4 months) and to administer during this period 6 to 8 gm. salvarsan, eventually 2 to 3 gm. neosalvarsan also.

We really succeeded in one case in obtaining an absolutely negative reaction with these large doses and prevented further residives. (Time of observation two years).

In a paper on cause, prevention and treatment of neuroresidives (*M.m. W.*, 1912, No. 40/42), we discussed our therapeutic experiences in ten patients with neuroresidives. In the meantime we have had some of these patients under Wassermann and serum control (as long as 3 years) and have treated 14 cases more.

Of these, at the beginning of the neuroresidue, two patients were not treated at all, two only with mercury and 10 with salvarsan or combined treatment. Of these ten patients, 8 had undergone very insufficient treatments (1-4 injections). It must be mentioned that two of these 10 patients were treated very thoroughly (3 gm. salvarsan and 0.5 Hg), but they developed neuroresidives three months after the treatment was stopped. This does not contradict our opinion of the pathogenesis of previously treated neuroresidives. Here, as well as in all other forms of syphilis, there are cases which are more easily influenced than others. These therapeutic refractories show themselves as spe-

cial cases during the first treatment (before the manifested neuroresidives) in a way that positive serum reaction and blood changes are influenced either very difficulty or not at all, not even after a long continued treatment.

Those patients treated intensely for neuroresidives were dismissed as cured, except two, who complained of pain. The objective success of the treatment was also excellent. We demonstrated the good effect of the intense treatment on the eye and ear. Patients who were deaf at the beginning of the treatment were able to hear whispers at a distance of 5 meters at the end.

But in the subjective condition of the patients the results were not so good. In agreement with Benario (on *Neuroresidives*, Muenchen, 1911), we made the assertion that there is only a guarantee of cure if one has been able to obtain absolutely normal serum. This opinion has been fully confirmed.

In seven patients we were able to meet these demands. All were dismissed free of any trouble and have been free from residives since. The serum reaction remained negative.

From our experiences with neuroresidives we have reached these conclusions:

The physician should try to obtain a negative reaction after the first course of treatment. If this is possible, the patient is guarded against reactions. As our experience in this respect is not very broad and the time of observation of such a serious disease has been too short, it would be advisable for patients who show a negative reaction to have a lumbar puncture made eight weeks after the end of the first treatment. If the serum still remain normal a residivation seems to be out of question and a second treatment is not necessary.

If the serum remains pathological to the slightest degree at the end of the first treatment, a second treatment must be given not later than eight weeks after the first. A residivation is usually avoided. If not, a third treatment would undoubtedly be successful. Each treatment must not only be intensive, but the physician must see that the single doses are administered at proper intervals. If longer intervals than we have recommended (1 to 2, at the most 3 to 5 days) are permitted, the success of the treatment becomes uncertain.

Cerebrospinal Syphilis.

The majority of our patients with syphilis of the central nervous system belong to the tertiary period.

The majority of these cases may be treated as follows:

Lumbar puncture. Then 1 to 2 days rest in bed without therapy. First day, calomel or gray oil (40%), 0.03; third day, calomel or gray oil (40%), 0.05; fifth day, salvarsan, 0.2; seventh day, salvarsan, 0.3; ninth and 11th days, calomel or gray oil, 0.04 to 0.07; thirteenth and seventeenth days, salvarsan, 0.3 to 0.4, and so on for 6 to 8 weeks, total salvarsan doses 4 to 5 gm.

A lumbar puncture at the beginning of the treatment seems to be absolutely necessary. If the fluid is absolutely negative no results will be obtained according to our experience. In such cases the syphilis of the central nervous system has apparently come to a dead point and irreparable anatomical conditions are present.

This opinion holds good, with the exception of two conditions. 1. In syphilitic endarteritis there is often negative fluid; these kind of diseases can nevertheless be influenced. 2. We have observed one case of isolated vestibular disease with negative fluid which improved

under treatment subjectively and objectively. Several other analogous cases remained absolutely uninfluenced.

If there are more or less changes in the fluid a favorable influence through an intensive salvarsan or salvarsan-mercury treatment can be promised with certainty. According to our experience, it is not possible to obtain a negative fluid after the first treatment, and after the second treatment only very seldom.

So far we have been able to get three patients with negative serum out of 125. These three have never had a residivation. This bad result must not be considered due to a too general therapy. The main fault lies with the patient and also especially the excellent symptomatic result of the above mentioned way of treatment: among the numerous cases we have only very few whose troubles did not improve considerably or disappeared entirely.

We saw improvement in paralytic conditions, disappearance of headache, giddiness, paraesthesia and the hearing increased in a most surprising way (whispering before treatment heard at 40 cm. distance, after treatment at 5 meters). One patient with oculomotor paralysis treated for weeks with mercury, but without results, was cured of this condition after four salvarsan injections.

We know today that we can accomplish much with one treatment in this form of syphilis of the central nervous system. Then some of the patients seem to get into a latent state which has lasted in some cases for two to three years. These patients have more or less severe serum changes, feel very well and usually cannot be persuaded to take a second treatment. Those who did have a second treatment very rarely returned on account of a residivation. As regard the residives we could observe them in relatively few cases after one treatment. Reactions occur mostly after 3 to 12 months and are less severe than those pains which cause the patients to come for their first treatments.

In order to cure the syphilis of the central nervous system, it would probably be necessary to recommend a course of treatment every three months in the majority of the cases or at least 3 to 5 months.

Tabes.

We have not obtained good results with the mercury treatment in tabes. After three years' experience we feel every patient with tabes should be treated with salvarsan, and suitable cases with the combined treatment also. (We have treated with salvarsan for three years every person with tabes who came to our clinic and was willing to undergo a treatment of at least six weeks' duration regardless of the state and how old the tabes was. Those 77 cases given do not represent a chosen number, but principally medium and severe cases just as they came to the clinic.)

Method of Treatment.—Each tabetic should be treated alone (during 2 to 3 weeks) previously with 1.0 to 1.5 to 2.0 salvarsan; a careful trial can then be made as to how best to apply the combined treatment with mercury and salvarsan.

For salvarsan begin with 0.1 to 0.2 every second or third day. After the fourth or fifth injection (subjective or objective) which has been taken without reaction, the dose may be increased eventually; 0.3 salvarsan in intervals of 2 to 3 days. We seldom go over this dose.

The treatment must be continued during a crisis, but with reduction of the single dose, and in case the combined treatment with mercury has been started, it must be continued. If there are exacerbations reg-

ularly after small salvarsan doses, neosalvarsan should be used in 0.3 to 0.45 to 0.6 doses; but this will not be necessary with a proper administration of salvarsan. The following mercury preparations are recommendable:

(1) Inunction 2 to 5 gm. p. d. on the days of salvarsan injections; (2) gray oil (40%) every fourth to sixth day, 0.03 to 0.05 up to 0.09; (3) calomel (40%) every fourth or sixth day, 0.02 to 0.04 to 0.06; (4) enesol (clin.) 0.06 every third or fourth day; (5) Hg salicyl. (10%) every fourth or sixth day, 0.05 to 0.1.

Between the mercury and salvarsan injection must be an interval of one to two days. If after the mercury there is an increase of pain without effecting the appetite and the general condition and if there is no loss in weight, the treatment may be continued with a decrease of the dose.

But special care has to be taken in tabes when mercury is applied on account of the intolerance for mercury. It sometimes happens that one mercury preparation is well taken, whereas another is not. Therefore, it is possible to give another treatment by inunction after a period of 8 to 14 days in cases where insoluble mercury salts have a bad effect on the general condition. Small doses of salvarsan and mercury are to be preferred.

The total amount of salvarsan should be 4 to 5 gm. in the first treatment and in the following 3 to 4 gm.

If the patient can take mercury, the combined treatment will be more effective than salvarsan alone. It is advisable to administer between the treatment small doses of iodine for three to four weeks. After two to three months a repetition of the single or combined treatment may be started. If a lasting result is to be obtained, four to six treatments must be given.

Patients who suffered for years from the most tormenting lancinating pains lost them during the course of the treatment either entirely or they were greatly improved. Some patients with severe ataxia who could neither stand nor walk were so improved that they are now able to walk for hours. Of course, we also had cases which remained uninfluenced and others which got worse, but 80 per cent. of the patients were greatly improved.

Residivations after the first treatment are quite frequent, and are easily influenced by therapy. They appear mostly in from eight to twelve weeks. For this reason it is best to have a second treatment follow eight weeks later. Summarizing our experiences with salvarsan in syphilis of the central nervous system and tabes, we find we have a remedy in salvarsan equalled by no other anti-syphilitic remedy in intensity and quickness of effect; but one must remember that only from a systematic treatment with salvarsan can one expect lasting results.

Whether or not it is really possible in the majority of the cases to stop cerebrospinal syphilis and tabes with salvarsan in combination with mercury and iodine according to our method, can be answered only in the years to come. After three years we can say that by expert treatment and necessary consistency on the part of the patient as well as the physician, the road to obtain this result seems to lie open to us. But often enough we have to combat against syphilis and against the lack of judgment of the patients who believe themselves to be well because they may show no symptoms. The absolutely necessary treatments are not made at all or when it is too late.

AN ANALYSIS OF THE NEW YORK ANTI-NARCOTIC LAW.

JUDGE EDWARD SWANN,
OF THE COURT OF GENERAL SESSIONS,
New York.

As the laws enacted by the legislature during the past winter have not yet been printed in book form and the average citizen therefore has no facilities for familiarizing himself with them, it seems fitting that some workable analysis in narrative form should be made for temporary convenience of the provisions of the Anti-Narcotic Drug Law which went into effect July 1st. This matter is of especial interest to physicians, surgeons, dentists, veterinarians and pharmacists.

To the drug addict and the drug peddler the only advice that can be given is to let the prohibited drugs alone. Against the illicit distributors of habit-forming narcotic drugs the law is especially directed and it is full of teeth for them.

The act in question is an amendment to the "Public Health Law" in relation to the sale of habit-forming drugs. It does not affect the existing Anti-Cocaine Law (section 1746 of the Penal Law) which makes it a misdemeanor to possess and a felony to sell cocaine except as therein provided. The new law is additional to and supplemental of the existing Anti-Cocaine Law and is directed against the illegal possession or use of chloral, opium, or any of its salts, alkaloids or derivatives, or any compound or preparation of any of them (which includes heroin, morphine and codeine).

Violation of the law is a misdemeanor and is punishable by one year in the penitentiary, or by a fine of \$500., or by both. There seems to prevail an idea that all persons arrested for violation of this new Anti-Narcotic Drug Act shall be confined separate and apart from other prisoners while awaiting trial, but there is no such provision or suggestion made in the statute and such is not the case. All prisoners in the City Prison awaiting trial are "presumed to be innocent until the contrary is shown," and they are only detained for the purpose of making sure of their presence at the trial.

Nor does the statute provide that even after conviction they shall be confined separate and apart from other prisoners except a certain class, of which I predict that in the whole State there will not be twelve such convictions in a year, viz., the habitual addict to the drug who has been so adjudged by a magistrate and committed to a hospital for treatment, and who after his commitment to the hospital is charged by the hospital authorities with violating its rules and "repeatedly conducts himself in a disorderly manner," and is thereafter tried and convicted of such disorderly conduct and sentenced to the penitentiary or workhouse. In which case, such institution shall "keep such person separate and apart from the other inmates," the object being not to subject the unfortunate and confirmed user of the drug to contact with criminals.

The act does not apply to the sale of proprietary medicines sold in good faith, provided they do not contain more than a certain stated limited quantity of the prohibited drugs. The intent and object of the law is to prevent the improper use of habit-forming drugs, and in order to effectually do so it has been necessary to regulate their legitimate sale and use in order that the drugs may be checked up and accounted for from the hands of the manufacturer to the consumer, and this is effected by means of a series of

official order blanks furnished by the State to the local Board of Health, and by the local Board of Health to pharmacists, druggists, physicians, veterinarians, or dentists. The law is sound in principle and will justify itself in practice, and on account of the growing menace and disastrous effects of the narcotic drug habit it is necessary that the medical profession shall forego some slight modicum of its accustomed freedom from regulation, by checking up the prescription and use of the drug. This is required by the British Government in India and the other British possessions in the far East.

No prescription for any of the prohibited drugs, or in which they form a part, shall be written until after a physical examination of the patient, and it must contain the name, address and telephone call of the physician, the name, age and address of the patient, and the date of issue.

The drug shall not be sold at retail or to the consumer except on prescription, and if the prescription calls for more than a certain amount named in the statute the pharmacist or druggist must verify the correctness of the amount called for "by telephone or otherwise." Such prescriptions can be filled only once and only within ten days after its date, and shall be filed by the pharmacist or druggist and given a consecutive number on his file with the name and address of the purchaser making the purchase and the date upon which the sale was made; and he shall place upon the package containing the medicine a label, or deliver a certificate, stating the name and address of the person selling the drug, the name and address of the physician prescribing it, and the name and address of the purchaser. The physician, druggist, pharmacist, veterinarian and dentist shall keep a written record of the name and address of each person to whom he administers or disposes, or sells or delivers in any way any of the prohibited drugs.

No hypodermic syringe or hypodermic needle shall be sold at retail except upon the order of a duly licensed physician or veterinarian, and the seller shall enter in a book kept for that purpose the date of the sale, the name and address of the purchaser, and a description of the instrument sold.

The manufacturer or wholesaler of the prohibited drug shall sell only to manufacturing pharmacists, or chemists, or wholesaler, or retail pharmacists or druggist, or to hospitals, colleges, scientific or public institutions, and then only upon a written order upon an official order blank, which shall be retained and filed by the wholesaler or manufacturer, and an entry made on his books giving the date of sale, the name and address of the purchaser, and the name of person making the sale.

Possession of any of the prohibited drugs by "any person other than a manufacturer of any of the drugs, a wholesale dealer, a licensed pharmacist, a licensed druggist, physician, veterinarian or dentist, except as authorized by this law, is a misdemeanor."

Provision is made for the trial, conviction and commitment of habitual narcotic drug users to a hospital or other institution licensed by the State.

Provision is made that if a physician, dentist, veterinarian, pharmacist, or registered nurse, is proven to be "addicted to the use of any narcotic habit-forming drug," that his license shall be revoked for one year, and until he shall fully recover. A violation of any of the provisions of this law is a misdemeanor punishable by one year in the penitentiary, or by a fine of \$500.,

or by both, and in case a physician, dentist, veterinarian, pharmacist or registered nurse is convicted of a violation of any of the provisions of this law his license to practice may be revoked after notice and a hearing.

MAL-NUTRITION AND ITS TREATMENT.

EMILE BRUNOR, M. D.,

New York.

Tuberculosis in its various forms has a very distinctive, inhibitory effect on nutrition. It causes a series of secondary symptoms which are sometimes harder to overcome than the original lesion.

We are told that any case of tuberculosis will get well if given plenty of food, fresh air and rest. Fresh air and rest are easy enough to obtain but when we try to overfeed the patient we are confronted with a very difficult problem. The digestive organs are so impaired from this wasting disease that even a modicum of food cannot be assimilated.

Mal-nutrition may be due to several causes, as the profound toxemia caused by the bacillary infection, nervousness due to worry, reflex sexual neuroses, anemia, hepatic, renal or intestinal insufficiency. Sometimes we have one or more of the above symptoms to deal with, sometimes the disease has progressed to such an extent that all of these symptoms or causes are embodied in one case.

Cases of glandular tuberculosis are particularly amenable to surgical treatment provided the glands are superficial and not adherent to any vital structures. Sometimes the glandular or closed tuberculosis, if we may so call it, has involved the mesenteric glands and the lymphatics surrounding the abdominal or pelvic viscera. In those cases surgical treatment is not to be thought of inasmuch as it converts a latent or chronic tubercular case into an acute one. I wish to report a case of glandular tuberculosis involving the lymphatics throughout the gastro-intestinal tract. It is one which was referred to me for surgical treatment as a last resort.

G. S., age 17, born in America, of American parents. Has been suffering for the past four years from progressive debility. He was treated by various physicians from time to time for gastritis, constipation and diarrhea. Finally he was advised to go to Liberty. While there he suffered with violent diarrhea and indigestion. After a few months stay his parents were convinced that his condition was aggravated rather than benefited by the climate. He was brought back to New York and he began to go down hill at a rapid pace.

When admitted in my hospital, in January, 1913, his weight was 60 pounds. In June, 1912, he weighed 115 pounds, showing a loss of 55 pounds in seven months. The physical examination showed no pulmonary involvement. The heart was dilated, pulse 140, urine had a high specific gravity, loaded with urates, uric acid and phosphates. The temperature was sub-normal, 95° F. His skin was drawn so tight over his bones that it would crack over the joints. The skin over the face was tightly drawn, so much so that his mouth was always open. The appearance of the body reminded one of the famine sufferers of India. He could not retain or assimilate any food. The smallest quantity of solid food caused a great deal of distress, nausea and gas. The first week after admittance to the hos-

pital he was placed on a milk diet and owing to the difficulty of digestion, the milk was diluted with vichy and given at frequent intervals and in spite of that we had a great deal of difficulty in making him retain any.

Then to make sure as to the etiology of the malnutrition, I gave him an injection of tuberculin which caused the usual reaction, chill, temperature and sweat. Simultaneously with the tubercular test I used the Moro Percutaneous test and after three days it was mildly positive. It convinced me that this was a case of intestinal tuberculosis. There were mitral murmurs. The aorta gave a blowing sound which is typical of profound anemia.

By palpation one could feel hard mesenteric glands under the skin, a few lymphatics which were hard and enlarged and the skin was dry and very pale; the eyes had that pearly iridescent look found in anemia; the conjunctiva, the lips and gums were pale, the matrix of the finger nails was bluish and the palmer surface of the hands was cold and clammy.

After the first week we were able to use a couple of quarts of milk a day and an emulsion of bone marrow, eggs and malt extract. Daily enemas of soapsuds and saline solution were used to cleanse the bowels. A dose of castor oil was given about once a week, and the weight of the patient began to increase at the rate of five pounds a week.

I also gave him five intravenous injections of an isotonic solution, which contained: acid salicylic, mercury albuminate, iron, sodium chloride, calcium carbonate and phenols.

The injections were given every other week with great difficulty on account of the small lumen of the veins. However, the temperature went to normal, the cold clammy sweat gave way to a warm glow, the appe-

tite improved and the increase in weight from that time on was at the rate of about a pound a day.

When the patient reached 100 pounds, this increase in weight was reduced to only 2 pounds a week. The emulsion of bone marrow, eggs and malt was discontinued after a month as the patient's stomach rebelled against the monotony of the tonic, so we used another preparation composed of the gluten of wheat and malt.

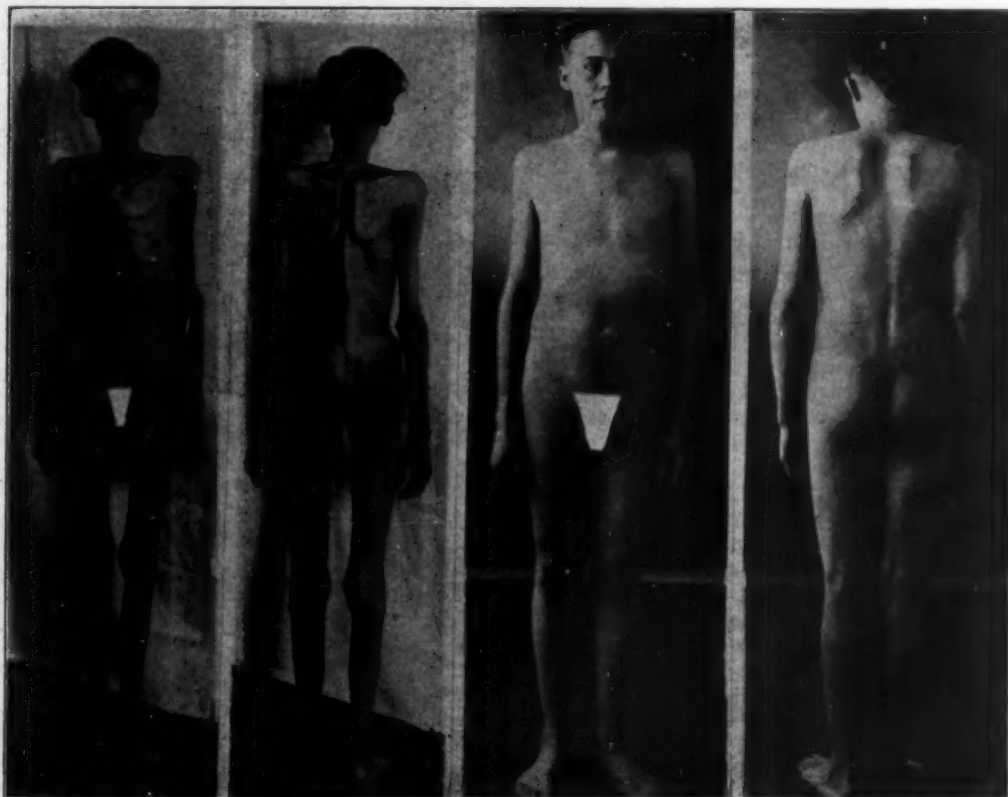
To overcome the deficient circulation we gave him hot baths every night and a rub down with cocoanut oil to make the skin more supple. In addition he then received a highly nutritious diet and occasionally an egg-nog. At the end of the second month, when the patient weighed 120 pounds, I took him out for a walk to test his strength, and he walked five miles before feeling any fatigue. I then weighed him and found he had not lost any appreciable amount. This encouraged me to provide him with a reasonable amount of physical exercise and when he left the hospital three months after admission he weighed 130 pounds.

He went to the country for the summer where he indulged in all kinds of strenuous exercises and sports and his weight upon his return was 140 pounds. He is in perfect health, eats, sleeps and works as though he never had a sick day in his life.

Last month he contracted a little cold with a severe cough and I watched him closely to see if there were any possibility of pulmonary involvement but the cold disappeared and the only difference is that he has returned to his former weight of 130 pounds.

When his picture was taken upon admittance it was with difficulty he could stand up for the five minutes necessary to take his photograph. Three months later the photograph speaks for itself.

46 Edgecombe Avenue.



TESTS OF OPEN-WINDOW VENTILATION.

JAMES FREDERICK ROGERS, M. D.,

INSTRUCTOR IN PHYSIOLOGY AND HYGIENE, NEW HAVEN NORMAL
SCHOOL OF GYMNASTICS,
New Haven, Conn.

An article covering the subject of ventilation completely would have a beginning but no end. It would also be most correctly entitled: "What We Do Not Know About, and Do Not Practice In, Ventilation." Whether or not it exhausted the subject, the article would soon exhaust the patience of the average reader and fatigue even one who was especially interested in the subject.

Our ancestors of a century ago were little troubled by the nightmare of fresh air. They closed their windows, drew the curtains of their couches closely and dropped off to sleep, untroubled by dreams of being smothered by carbon dioxide, or of waking up dead from the effect of poisonous organic matters in the breath, from super-heating, or from over-humidity. If these happy beings were wrong in their ideas, it must be said that they were at least consistent in their conduct. They practiced as they preached.

On the contrary, we of this very scientific generation are forever talking ventilation though we do not usually ventilate. We are spending mints of money in trying to discover the cause of the ill effects of bad air, and we worry over these problems in rooms where the standard for pure air, as set down by those in conference, is utterly disregarded. We have even, of late, become so disheartened over the problem that we have attempted to abandon the matter altogether by taking the sides or windows out of our rooms, leaving them open to the winds of heaven. In doing so, the problem seems to disappear, for ventilation apparently pertains altogether to life within four walls.

The fact that, although it seems to do away with ventilation, we do not all take the walls out of our houses or carry on our daily work in the open air, speaks for our inherent good sense that it is better to make the most of impure air than to waste our energies in fighting cold and running the risk of the many infections to which cold renders us liable. Though bad ventilation is often due to false economy, yet we instinctively recognize that it is more economical to sit in warm, if ill-ventilated, rooms than in those thrown open to the blasts of winter.

Open air schools are undoubtedly a good thing for certain classes of children, but we have not as yet, so far as the writer knows, had any comparison with the effects upon children of a well ventilated school room conducted in the same way. The name "open air school" is misleading, for the difference between this and an ordinary school is not by any means simply one of the character of the air; the giving of extra meals, the periods of rest and sleep, the superior opportunity for bodily exercise, the abundance of light, are not found in the ordinary school, and have as much, if not more, effect than the purity and temperature of the air; last, but not least, there is a different psychical atmosphere produced by the new and novel surroundings, by teachers chosen for the purpose, each striving enthusiastically to make the most of the new arrangement; finally the pupils are of a class not likely to badger the teacher, and so bring about reflexly a general lowering of the mental atmosphere of the school. Under such conditions both physical and mental progress ought to be accelerated.

Respiration (or ventilation, for it is the same thing) goes on simultaneously in four different regions, there is the interchange of oxygen and carbon dioxide between the tissues and the blood; the interchange of these gases and of watery vapor, between the blood in the lung capillaries and the air in the air sacs of the lungs; a similar movement between the air in the lungs and the air of a room, and finally, between a room and the air out of doors. The physiological part of this four-fold ventilating machinery, developed through millions of years, we cannot stop nor even regulate. It depends on constant circulation of blood and of air; that circulation costs, and we have to foot the bills for it. It takes at least two hundred calories out of a total of twenty-five hundred calories for twenty-four hours, to keep this body respiration running. This means that a twelfth or more of the grocer's bill goes for internal ventilation, whether we will or no. When it comes to room ventilation, which is a comparatively recent addition to our respiratory performances, we have no automatic center, no very sensitive guide, conscious or unconscious, as to the character of the air and the need of interchange of gases. We also fail to take the cue from physiology, that, if there is to be good ventilation, as we now understand the term, there must be adequate circulation, and that we must pay for it.

No matter what the cause of the ill effects of bad ventilation, aside from temperature, the carbon dioxide content is still considered the best guide as to the character of the air. Pure air contains from three to four parts of carbon dioxide per ten thousand, and for good ventilation the hygienists have never placed the permissible limit for carbon dioxide higher than eight parts per ten thousand.

The writer has recently made some tests with the Fitz air tester of the air in public buildings and found, as he expected, the ventilation, according to prescribed standards, usually bad and often very bad. In one of the newer city school buildings with forced draught and an engineer who understands his business, the air in some rooms was practically pure, but in most of the school rooms tested, the air ranged from eight to eighteen parts carbon dioxide, the average showing about twelve parts.

In one church the air at the beginning of the service contained five parts per ten thousand, and after an hour and a quarter it had risen to twelve parts.

In one library reading room of a university, with several windows open, there were five parts of carbon dioxide, while in the magazine room of the same building there were eleven parts.

In a class room in which the subject of ventilation was being discussed and the limit for carbon dioxide was laid down as seven parts per ten thousand, the test gave twelve parts.

A trolley car, with only twenty people, gave twelve parts, and the same car on its return trip from the suburbs with twelve passengers, gave ten parts. Two other cars contained fourteen parts for twelve people and six parts for six people. What a crowded car would show can easily be imagined.

Any one who goes, at the opportune time (we might almost say at any time), into a public school or theatre, church or trolley car, knows that they are badly ventilated, so that these tests only tell us a little more accurately what we already know.

The tests brought out some facts, however, which

were not so familiar, and one of these was the inadequacy of open doors or open windows in changing the air of a room.

In a school-room in one of the older buildings, two narrow windows at one end of the room were open a foot at the top, and the door leading into the hall was wide open. One of the tests showed fourteen parts carbon dioxide per ten thousand, while another taken where cold air coming in from the window could be felt, showed seven parts of carbon dioxide. In another room three windows were open a foot at the top, and two as much at the bottom, and yet in the center of the room the test gave twelve parts of carbon dioxide. The temperature of the air outside was 50 degrees and there was little wind.

In another room with all the eight large windows opened between sash by having a board placed under the bottom of the lower sash, and with two windows open six inches at the top, tests gave twelve parts carbon dioxide near the window, and fourteen at the center of the rooms, and the air smelled stale.

In another room at 3.45 three large windows were raised the full height of the sash; there was a strong breeze blowing towards that side of the building, and it swept through the room so as to be felt distinctly in the hall, and with a force sufficient to carry some small papers from the teacher's desk. The windows were closed after a ten minute gymnastic lesson, and at this time a test taken in a corner, out of the line of draught, showed that the air in that vicinity still contained at least nine parts of carbon dioxide. I do not know what it contained previous to this open-window period, but the principal told me that this teacher was always in poor health and kept the room closed. The striking thing about this instance is the lack of real ventilation produced in ten minutes by wide-open windows and a strong breeze.

The St. John's river, Florida, is dark in color, but the Blue river empties into it and can easily be distinguished from the general stream for miles by its color. Gases act in much the same way, though of course they diffuse more rapidly, and the stream of pure air in this case flowed through the room without immediately affecting the surrounding stagnant air.

Tests of the air of a bed room for two people, with windows wide open for ventilation, gave some surprising results. In a room $12\frac{1}{2} \times 12\frac{1}{2}$ by $10\frac{1}{2}$ feet, with the door open into the rest of the house and with one large window fully open at top and bottom, giving an opening 33×42 inches, only obstructed by a blind in which the slats were opened, the air in the morning contained thirteen parts of carbon dioxide. This was on the 9th of May, and a slight breeze had been blowing toward the open window. The air in the room seemed to the senses pure, but on reentering it from the rest of the house, there was the stuffy odor which goes with incomplete ventilation. The window was closed during the test. After this test one window was opened full, the blinds were opened, and an irregular breeze, felt six feet from the window, swept the room for half an hour. At the end of that period there was still some taint to the air, and the carbon dioxide amounted to six parts per ten thousand. Only after two hours and a quarter had the odor disappeared and the carbon dioxide fallen to $4\frac{1}{2}$ parts.

On May 29th, with two windows open on two sides of the room with fly screens 24 inches high under each, and with a decided breeze blowing, the carbon dioxide

at 8.15 a. m. was nine parts per ten thousand; at 9.15, eight parts, and at 11 o'clock it had only reached seven parts.

Without giving details of further tests, suffice it to say that the results were similar, and always there was found a lack of what is considered by all hygienists, good ventilation, even though the conditions were such as we usually think quite sufficient to renew the air rapidly.

The recently published experiments of Thomas Crowder are of interest in connection with these tests. He has shown that with good ventilation we rebreath anywhere from 1 to 10 per cent. of the air we have just expired.

In a bed-room of ordinary size, containing 1200 cu. ft. of pure air, the air rebreathed, no matter what the temperature, contained an average of 14 parts of carbon dioxide. With a person lying in bed with the side of the face resting on the pillow, the air taken in showed an average of 23 parts carbon dioxide or 4 per cent. of the expired air. He attributes the increase in this position to the tendency of gases to cling to surfaces, a fact which helps to explain some of the findings in my own tests. The introduction of air into the room at the rate of 28,000 cu. ft. per hour lowered the amount of carbon dioxide rebreathed comparatively little, and with quite a perceptible breeze from an electric fan blowing upon the head, there continued to be from 11 to 15 parts of carbon dioxide taken in, with the person in bed.

In order to do away with rebreathing, the enormous amount of 300,000 cu. ft. of air per hour had to be introduced, or 100 times as much as is sufficient to keep the air, in general, pure.

Out of doors, when the person was at all sheltered, the proportion of expired air rebreathed was nearly as high as before. To quote Crowder's words, "One does not necessarily breathe pure air because he is out of doors; he is not at all likely to do so under the ordinary conditions of sleeping tents, tent houses or half-open porches, such as are used for therapeutic or hygienic purposes."

Our ideas of ventilation have received some rather rude shocks of late. The proportion of carbon dioxide has been shown to be of no importance and Professor Henderson has pointed out its usefulness rather than harmfulness to the body. No one has discovered any bad results from the lowering of the amount of oxygen, though Haldane and others have attributed the effects of ill ventilation to the changes in the relative amounts of carbon dioxide and oxygen. No absolute proof of the presence of any toxic organic substance has as yet been presented.

There is apparently little left on which to fix the blame for the effects of what we indefinitely term bad air, except the odorous matter from diseased noses, decayed teeth, foul digestive tracts, dirty skins, soiled clothing, and contaminated rooms. These effluvia have a most depressing effect upon us when we enter an ill ventilated room, and, though we are not usually conscious of them when in the room, it is not impossible that they produce some depressing effect sub-consciously or reflexly. There is much we do not know about the influence of the sense of smell upon the body in general. We may not be conscious of any defect of the eyes and yet suffer profoundly from eye-strain.

Over-heating and over-accumulation of moisture interfere with the general chemical activities of the body and it is probable that to these the immediate and con-

scious effects of oppressive air are to be attributed. The watery vapor constantly given off from the skin, forms in stagnant air, an invisible cloud about the body. This, if the temperature of the air is high, necessitating increased activity of the sweat glands, interferes markedly with the elimination of heat from the body, and brings on general distress, conscious or unconscious. The mere stirring up of the air under such conditions ought to bring relief and this has been found experimentally to be the case. The degree of humidity of the air seems to be of little moment so the temperature is not too high, high temperature and high humidity being the worst combination.

As for the degree of heat which is best, experiments in grammar schools show that there is the greatest evident comfort and the most efficient work if the thermometer ranges between 64 and 68 degrees. At 60 degrees children become cold and at 70 degrees they show signs of restlessness and discomfort. Of course the amount of clothing will have something to do with this.

After all, the rather primitive sort of room in which some of us learned our letters, was not so far from ideal as regards ventilation. Heated by a great cannon stove in the center, and with cracks in the walls, about the windows and door through which a bird might fly, there was constant circulation from out of doors to stove and from stove back to out of doors; there were all degrees of temperature from the torrid region about the red-hot stove to the frigid zones near the walls, and the child who was cold could move up by the stove while the child who was too warm could sit by the wall. The modern method is to dump children with bodies in all degrees of chemical activity and heat-production into rooms where the air is often stagnant, where the temperature is alike for all and where too often it is raised to that pitch which seems most pleasant to a thinly clad, not over-active teacher of an adult age, whose bodily fires are comparatively low. The space once occupied by the stove and coal box in the primitive school is now occupied by a dozen more pupils, a circumstance which adds to the difficulty of ventilation.

The discovery of fire was the greatest find ever made by our primitive ancestor but, as with tempting food and drink or delightful exercise, we are apt to abuse the blessing by taking too much of it and we must suffer until we learn to be more reasonable. This does not mean that we should all abandon indoor living and put out our fires, though, just as a limited diet may be a good thing for some persons, so the continuous life out of doors may also be necessary for those who especially need such treatment. External heat must be used like food, drink, exercise and rest according to the needs of the person and the need will differ markedly at different ages.

The need of external heat at different periods of life and under different conditions of the body is well illustrated in the history of that Apollo in body and mind, Goethe, of whom the great contemporary physician Hufeland said, "Never have I met a man in whom bodily and mental organization were as perfect." In his younger days he was very fond of fresh air and cold water, although to most of his contemporaries these were bug bears. He often lay wrapped only in his cloak, out of doors through thunder, lightning and rain. The cold of December did not prevent his daily plunge in the river. Of course this extravagant conduct led

to colds and other illnesses of a serious character. However he recovered perfectly and at eighty years he was younger than most men at fifty, but the contrast in his daily life was remarkable for the "heated and impure air of an unventilated room was so agreeable that it was difficult to persuade him to have a window open for ventilation." Yet between 80 and 85 and under these circumstances he produced remarkable works.

In the very practical experiments in ventilation being carried on at the Y. M. C. A. Training School in Springfield, Mass. the air is washed, heated and moistened to the desired degree and forced in large volume into the gymnasium at such a rate, that a breeze can be felt anywhere in the room. The air is redrawn from the room, rewashed and sent into the room to be used over again. Considerable economy of fuel is claimed for the method, the air is washed nearly clean of dust and bacteria, and there is a partial but not complete reduction in the odorous material in the air which is sent into the room a second time. They have found that the degree of moisture matters very little, so it is not extreme, and that the feeling of discomfort depends chiefly on the temperature.

With a system like this the carbon dioxide test is not of use, as this gas is washed out by the water, and the odorous matter is also reduced. Though this system is not ideal, it will doubtless be improved upon and possibly perfected. It is certainly a step in the right direction. There may be some saving from reusing the same air but we will never have any good system of ventilation without paying something for it. The cost of the process will be lowered, however, by cleaning the human animal inside and out so that his befouling the air will be reduced to a minimum.

With our present-day knowledge the matter of temperature of the air is undoubtedly the chief factor in what we call bad ventilation. As for humidity, this does not seem to matter greatly so the air is not too dry nor too moist. There is as yet no known toxic influence from bad air through substances absorbed from expired air. The amount of carbon dioxide and of oxygen even in badly ventilated rooms apparently has no effect upon the body. There may be a depressing effect from the presence of odorous material influencing the body through the sense of smell. Dust and bacteria are of course objectionable and should be eliminated as much as possible though they are minor factors. There ought always to be adequate circulation of the air in a room.

Knowing all this it cannot be said that even the theoretic problems of ventilation are exhausted for there may be some unknown influence yet in expired air, which depresses the body, though not until the effects of odors have been thoroughly investigated should we make this as a positive assertion.

We know enough theoretically, however, to have good ventilation provided we will allow ample space for each individual in the room to be ventilated, and provided we furnish sufficient fresh air.

In buildings where we still have to depend on open windows, variations of temperature, and the movements of the wind, we will have to open our windows more than a few minutes if we would attain to a standard of ventilation set by present-day science.

Frequently tuberculous disease in the spine, in a joint, or in a testicle, follows a blow, a sprain, or an injury of some kind.

THE TREATMENT OF MORPHINISM.

C. B. PEARSON, M. D.,
Hillsdale, Md.

I am familiar with the various "quick systems of treatment" but do not use them. No matter what methods are used the sudden change from chronic opium narcosis to total abstinence is accompanied by danger to life, slight perhaps, but none the less real. There is also danger to the patient's reason in a small but persistent percentage of the cases treated. In a considerable number of cases where permanent relief is not secured the patient plunges deeper than ever into morphinism, and I believe that the shock does permanent damage to the nervous system. I do know that such cases are less amenable to rational treatment than they would have been had they never taken treatment at all. I admit that permanent relief has been secured in many cases by the quick system of treatment, but think the good is more than equaled by the harm done. In recommending a reduction process I am well aware that it has failed in the hands of many good physicians. Before going any further I wish to state that there is no drug or formula that can be considered as a specific for morphinism. The cure of morphinism consists in securing abstinence long enough for nature to repair the damage done to the body and brain by the abuse of the drug. I prefer to secure this result by gradual reduction, because danger to life and reason are eliminated; and because a relapse makes the patient no worse off than before. He is apt to be better off, for he learns while here that greater comfort can be secured by an economic use of the drug.

Many physicians are skeptical concerning this method because some professor has tried it and failed. If the professor did know how to use gradual reduction, without restraints, he would know that he must devote his whole time to it. There is no use in blinking at the matter. So far as I know there is not now and never has been a professor who ever gave up his whole time to reduction without restraints. I am securing as high a percentage of permanent recoveries as my confreres are who are combating other forms of chronic invalidism.

The word reduction may suggest mathematics. The problem is therapeutical. In reduction without restraints the rapidity of the process depends upon what we think the patient will stand. Not upon what we think he ought to stand. It is precisely at this point that the mathematical concept of reduction—a concept that has caused a multitude of failures—should disappear and the real therapeutic problem should become clearly manifest. To estimate what an addict is willing to do is a difficult matter. But that is the problem we are up against. If we could not solve it we would be obliged to use restraints. It is the experience that we have gained from daily associations with these people that simplifies the problem. There are a few patients who will dope on the side. By using blank hypodermics a patient can be forced either into a confession or into pretending that he is cured and discontinuing treatment. I prefer to give them time to make this confession of their own accord. The moral strength they get from doing so may be just what is needed to enable them to go through the treatment properly and to take the necessary precautions against relapse after returning to their homes. When a patient is going down the line honestly he presents a group of certain well defined symptoms. When this group of symptoms is

absent we are justified in thinking things are not going right. I make no attempt to tell whether a patient is doping on the side by detective expedients. It is futile to match your wits against an addict.

A druggist told me that a doctor who was a heroin addict repeatedly came into his place and stole heroin from him. And in spite of every effort on his part to catch him in the act he was never able to do so. The fact that a patient dopes on the side does not necessarily mean that his case is hopeless; he may confess and make a fine recovery. Even if it spoils his present prospects of a cure, when he goes home and receives further punishment from his habit it is apt to cause him to do some pretty serious thinking. While with us he has seen cures made and he knows that many never relapse. After a time he is apt to return—this time in the right mental attitude to achieve success.

We reserve the right to discontinue treatment when we find a patient inducing others to cheat. In most cases the patient is looking and acting much better when we get him down below therapeutic doses than at the beginning of treatment. I have had them gain thirty or more pounds. I frankly admit that there are a few incorrigible cheats, who cannot be taken off the drug without restraints. This being so would it not be better to use restraints in all cases? I answer no.

1. Because these incorrigible cheats with very rare exceptions belong to a class that will never be permanently cured by any method of treatment whatever. And that it is foolish and wrong to ask the favorable class of addicts to submit to the stigma and needless expense of restraints because of a class that are to all intents and purposes hopeless anyway.

2. Anyone familiar with the psychosis of morphinism knows that timidity and fear are among its prominent symptoms. On this account there are thousands of cases of morphinism who will never voluntarily place themselves in the absolute power of another person no matter how kindly and humane they may know that person to be.

It is hard to build up a patient's self-respect and self-reliance when you show that you do not think he has these qualities by locking him up. I believe that intelligent reduction administered without restraints will secure the highest percentage of permanent results, and I believe that it is the only method that thousands of addicts, especially the more intelligent among them, will ever voluntarily attempt. My patients all know that they are free to discontinue treatment at any time. This fact is of itself a great encouragement. They continue treatment day after day and the first thing they know they find they no longer need to use morphin.

No system of reduction is perfect that needs restraints for its successful application. If we except those patients who are not in earnest or those whose brain is too defective either from the effects of the drug or from other causes to permit of their following any fixed purpose.

As an example of those who are not in earnest let me cite this case. A prominent woman took treatment eleven times and failed each time. At last her finances became reduced to a sum just sufficient for her twelfth treatment. On this occasion she was entirely successful and remained free from morphinism until her death several years later. Every one knows that morphinism does not improve with age, therefore it is evident that this lady could have succeeded at any of her previous attempts had she wished to.

As an example of a case too defective mentally to be handled without restraints, take this case—a physician who had taken the Keeley treatment ten times for alcoholism and four times for morphinism came to me taking whisky, hyoscin, cocain, morphin, cannabis indica, chloral hydrate and bromide of soda. It is needless to say that my methods were not successful in his case. Very many, perhaps the majority, would say that all cases are either not enough in earnest or too defective mentally to be handled without restraints. I say and my daily experience proves it, that over 75 per cent. of all cases who voluntarily come for treatment can be put beyond all craving for morphine without restraints. The physician who cannot do this needs to perfect his technic.

The prevalent opinion that all opium addicts are almost wholly lacking in will power is not at all in harmony with the facts, but is due solely to the bungling efforts that have been made to cure these unfortunate people. A common objection to this method of treatment is that it takes too much time—a peurile objection. It has its origin in what the patient would like to have done rather than in what can be done. A nervous system that has been mangled and bruised by long abuse of morphine needs and must have time for its healing. The sudden withdrawal of morphin only further damages an already shattered nervous system and therefore must delay the final restoration of health. Everyone knows that the opiates interfere with secretion and excretion. It is perhaps not so generally known that there is a hyperacidity of the stomach in these cases. I find that the persistent use of alkaline elimination improves the appetite and sleep, and lessens much of the nervousness and discomfort. I use the bicarbonate of soda, citrate of soda and citrate of lithium. By these means I find that the withdrawal of the drug requires less time and that the patient's mental alertness is much improved.

Then there are other remedies that relieve certain symptoms. Caffein is the chief of these, as it seems to sustain the heart's action and also to relieve much of the mental depression and lassitude. The mydriatics stop the profuse perspiration and promote sleep. It is needless to say that such powerful drugs as atropin, scopolamin, etc., should be used in very small doses when it is necessary to use them for a considerable time. My maximum dose of these drugs is 1/400 gr. Very few can stand this dose four times a day. But when I do find one who can stand this dose without disturbance of vision, dryness of the throat, burning of the skin, etc., I am able to put him through the reduction more rapidly and comfortably than would otherwise be the case. The average case does better on 1/600 gr., still others are more easily managed without the mydriatics at all. The sulphate of spartin is sometimes very useful. Ergotin in the early stage of the reduction is useful. But the tact necessary to keep the patient constantly expecting ultimate recovery is the most useful therapeutic force of all.

The consideration of the prognosis in an article of this kind is out of place. Briefly, I look for 75 per cent. of permanent cures in straight cases of morphin addiction, who have never taken treatment and who are up and about and at work, regardless of amount used and length of the addiction and a lower percentage of cures in the other types, according to circumstances. No case can be declared hopeless in advance.

PROSTITUTION AND HOMOSEXUALITY IN PERSIA.

DOUGLAS C. MCMURTRIE, M. D.,
New York.

According to available records prostitution appears to have existed in Persia in ancient times. Owing to the tenets of Zoroastrianism, however, it never seems to have gained a foothold as a religious rite, as was the case in some other countries.

Due to certain standards of morals only slaves or prisoners were permitted to become public prostitutes. A clause in the police code¹ enacted toward the end of the thirteenth century throws some light on the subject. It is cited by Dr. Polak,² a physician who had practiced in Persia, and to this same authority I am indebted for much of the information in the present article.

"These (houses of prostitution) had settled in the large cities opposite the mosques and cloisters in Kneipen-Chaerabat.³ The owners of these establishments offered larger prices for slaves than for free girls and the dealers therefore preferred to sell them the former. Most of the girls are sold into these houses against their will. Gazan Chan prohibited the erection of houses of this type considering that their suppression was a duty he owed to his religion."

"Since prostitution had been permitted in ancient times and it was considered a necessary system, it had to be tolerated until steps could be taken to uproot it completely."

As a step in this direction the sale of girls to the Chaerabat was forbidden and those who were detained against their will were allowed to depart. A definite sum from the state treasury was set aside for the reclamation of such a girl to the path of virtue. She was then ordered to marry legally any man who was willing to take her.

During the sixteenth and seventeenth centuries prostitutes appear to have played a special role in the celebration of public holidays. They also provided a source of income to meet the expenses to the state.

Chardin reports, according to Polak,⁴ "When I was in Ispahan in 1666, the number of registered prostitutes was 14,000. As they paid tribute they constituted a caste, and had a leader at their head. The tribute they paid was 360,000 ecus. The number of non-registered prostitutes is said to be just as great."

It may be explained that Ispahan or Isfahan as it is better known was one of the great cities, situated about the middle of the country. At the time of Chardin's report it was supposed to have had a population of between 600,000 and 1,000,000. It has since fallen into a state of decay and has only about 85,000 population. The people of the city have even now a very poor reputation for morals, being regarded as clever but dissolute.

At the beginning of the nineteenth century there was a prostitution quarter in the city of Zeheran but about the middle of the century was done away with.

The prevailing religion in Persia, the Mahommedan sect of the Shi'ites permits marriage for a predetermined period, the bond being severed at the expiration of the time. This period varies from one hour to ninety-nine years. In its abuse this custom gives rise to a form of legalized prostitution. Even the priests or *mullahs* have been in the habit of introducing strangers to several women, committing one of the latter to their care for one or more nights.

At certain times the *dorughe* or police and their assistants, the *kalanter*, who are charged with the oversight of public morals, are reported to have received large sums of bribe money from prostitutes. This seems but a repetition of universal experience.

Throughout the country, and especially amongst the nomad tribes, the standard of moral purity is high. Polak notes the Susmain of Kurdistan as an exception, the women being known as dancing girls and prostitutes. Several religious sects have considered it the duty of a host to offer his wife to a guest. The Babi sect, of comparatively recent origin, have preached the complete emancipation of woman, allowing her the same sexual license as a man.

There are some related facts which bear on the question of public morals in Persia. The following statements are given by C. J. Wills.³ The home virtues of the Persian are many; he is very kind and indulgent to his children and, as a son, his respect for both parents is excessive. Black slaves and men-nurses or *lallahs* are much respected; the *dayah* or wet-nurse is looked on as a second mother and usually provided for for life. The slaves in Persia have a good time, well fed, well clothed, treated as spoiled children, given the lightest work, and often given in marriage to a favorite son or taken as *segah* or concubine by the master himself.

The costume of the Persian women, when carried to the extreme of fashion, is often suggestive and would be considered by the average European as indecent.

Pederasty has at all times been comparatively prevalent in Persia. Although religious teachings strictly forbid it, and it can even be punished by death, it is widespread among both the laity and priesthood, and no measures are taken for its suppression. According to Polak one, and sometimes several, boys who serve in the capacity of male prostitutes are found in every house. They are given every attention and most solicitous care, and are clothed with costly raiment and fine shawls. Contrary to the usual custom of men and boys in Persia their hair is allowed to grow in long locks. There is little sense of shame or wrong-doing involved in relationships with these boys. Men are proud to possess them, when they are considered attractive, and their masters evince all the manifestations of jealousy which they might normally feel regarding women. They are carefully guarded lest they be kidnapped and carried away. In order to recruit the ranks of these boys all means of seduction are employed—bribes are offered and force is used when necessary. For this reason children from good homes are vigilantly protected and are not even permitted to go out in the street alone.

Many of the native Persian physicians, especially in the past, have considered homosexual practices entirely permissible. Polak reports, on his own knowledge, that it was sometimes definitely prescribed.

¹Dr. Bernhauer. *Institution de police chez les Arabes*. Paris, 1860.

²J. E. Polak. *Prostitution in Persien*. *Wiener Medizinische Wochenschrift*. 1861, xi, 516, 563, 627.

³The prostitution quarter.

⁴J. E. Polak. *loc. cit.*

⁵C. J. Wills. *In the Land of the Lion and Sun*. 1883.

True glycosuria occurring in the course of typhoid fever requires no treatment until the temperature is normal and convalescence begins.

Syphilis

Syphilis and Insanity.

Sir George Savage of Guy's Hospital, London, observes that syphilis may be a cause of congenital mental defect; it may be a cause of preventing healthy development of the brain; or it may interfere with the development by the senses, and may thus lead to defective education. It may give rise to convulsions, which may either become established, as epilepsy, or may lead to mental weakness. It may also affect the moral development; and cases with a syphilitic inheritance have, in my experience, not infrequently, been morally defective in one way or another, and incapable of recognizing their social duties. Syphilis may cause hypochondriacal feelings, and the presence of stigmata may make the patient believe that he is a suspect, and may thus give rise to delusions of suspicion, melancholia, and suicide. Congenital syphilis is almost certainly the cause of adolescent general paralysis. Ordinary general paralysis, locomotor ataxy with mental symptoms, are associated, in nearly all cases in my experience, with a history of syphilis. Besides this, there are many forms of dementia depending on arterial degeneration which may produce general brain decay, or local troubles, such as softening or apoplectic seizures.

He concludes: "I am constantly being asked this question: Is it justifiable to treat a patient suffering from chronic mental disorder associated with syphilis, such as general paralysis of the insane, with salvarsan? I say 'Yes.' But if I am asked whether I have much hope, I say 'No.' But it seems to me that, on the one hand, we say to the friends, 'Here is a perfectly hopeless and incurable patient; I can do nothing for him. There is a remedy that is now being used, and, if you have no objection, I should like the experiment to be tried.' I have heard of one or two cases in whom the treatment has produced some material physical benefits, and in one at least of whom the mental and physical systems have both steadily improved."—(*The Practitioner*, May, 1914.

Brain Syphilis Successfully Treated with Neosalvarsan.

Assistant Surgeon C. L. Williams, U. S. P. H. S., notes that several observers have reported unfavorable results following the use of salvarsan or neosalvarsan in cerebral syphilis. These included disturbances of the central nervous system, choked disk, epileptiform attacks and symptoms of cerebral intoxication.

In view of these reports, brain syphilis is now regarded as a contra-indication to the administration of salvarsan or neosalvarsan except in very small doses after mercury and potassium iodide have failed. Eddy (*Journ. A. M. A.*, Apr. 26, 1913), in reporting a case of brain syphilis treated with neosalvarsan, cites the condition as a contra-indication, but administered the drug when the case seemed desperate, with excellent results. Since in so serious a condition as brain syphilis a drug that gives rapid control is of the greatest service, it is important that all experiences with salvarsan or neosalvarsan in this form of the disease be reported in order that its value and dangers may be exactly ascertained.

Williams reported a typical case of brain syphilis treated with neosalvarsan, with prompt recovery:

History.—Patient, white man, age 28, in good health up to time of infection; had primary sore early in March, 1913; went to hospital, but received only local treatment pending diagnosis. Left hospital early in April with sore healed and went to sea on a revenue cutter. On May 1 a typical syphilitic eruption appeared on patient's body. Diagnosis of syphilis was made without Wassermann reaction, this being impracticable to obtain. Two days after appearance of eruption he was given 0.9 gram neosalvarsan intramuscularly and started on mercurial treatment. All symptoms cleared up in a few days and patient then refused further treatment.

August 3, nearly six months after initial lesion and three months after injection of neosalvarsan, he began to complain of headaches. On August 11, following some violent exercise, he suddenly fell to the floor in a convulsion with violent muscular contractions and frothing at the mouth. This lasted about three minutes and was followed by coma, which, however, was of short duration, the patient becoming conscious, but slightly confused, within 10 minutes.

Patient denied epilepsy, and was corroborated by several friends who had known him over a year.

Patient returned to work next day, but on August 18 had a severe headache and pain in the eyes, and was put to bed in a darkened room. The next day headache was more severe, eyes were protruded, pupils dilated, but with reflexes present, pulse slow and strong, respiration 15 to the minute and deep; vomiting, projectile in type, so frequent as to make feeding difficult. The urine for three days was only 8 ounces in 24 hours, high specific gravity, with trace of albumen and few casts. It gradually cleared up, and by September 1 appeared normal on examination.

Treatment.—Potassium iodide was administered in large doses, but only a small amount—about 30 grains a day—was retained. Up to September 4, a period of seventeen days, it had had no noticeable effect, the patient's condition remaining unchanged, except that exophthalmus developed to such an extent as to cause diplopia, disappearing on closing of one or the other eye.

On September 4 he was given 0.7 gram neosalvarsan dissolved in 10 cubic centimeters distilled sterile water, intravenously. Improvement was marked and rapid. The next morning the headache was better and vomiting much less, and within three days all discomfort had ceased; within eight days patient returned to work. Diplopia had disappeared on fourth day and the exophthalmus gradually decreased, being scarcely noticeable when patient was last seen on September 26. Urine, examined from time to time, was apparently normal. On September 24 patient was given 0.9 gram neosalvarsan intravenously, and when last seen, two days later, felt perfectly well.—(*U. S. Public Reports*, Nov. 14, 1913.)

Syphilis of the Nervous System in Infancy, Childhood, and Early Adult Life.

Wilse Robinson, of Kansas City, calls attention to the fact that lesions of the nervous system secondary to congenital or early acquired syphilis are of quite common occurrence. Those lesions secondary to syphilis which are acquired in infancy or early childhood do not differ in kind or degree from the lesions secondary to congenital syphilis. There may be evidence of gross lesions of the nervous system secondary to syphilis and

yet be no obvious symptoms or signs of syphilis. By the aid of the Wassermann test of the blood or cerebrospinal fluid and by a cytological and chemical examination of the cerebrospinal fluid, many obscure conditions may be demonstrated as being secondary to syphilis in which syphilis may not be suspected and cannot otherwise be demonstrated. Hydrocephalus, meningitis, and convulsions during early infancy are very commonly secondary to syphilis. The so-called idiopathic type of general epilepsy is not an unusual sequence of syphilis of the young. The Jacksonian type of epilepsy quite frequently occurs secondary to cortical lesions of syphilitic origin. Lesions of the spinal cord other than tabetic are unusual in syphilis of the young. States of mental defectiveness are very commonly caused by syphilis. Any lesion of the nervous system occurring in the young is serious. This is especially true of those lesions occurring secondary to syphilis. Some forms of meningitis, gummatous formations, epilepsy, pseudotabes and a few other conditions occasionally respond to treatment. Juvenile paresis and tabes do not yield to treatment. The treatment should be antisiphilitic and should be pushed to the limit.—(*Interstate Medical Journal*, Nov., 1913.)

Syphilis and the Nervous System.

J. Collins, New York, considers the prevention of syphilis one of the most urgent and important problems for the physician and specially devotes his article to the diseases it produces in the nerve centers. The bulk of all organic nervous disease are syphilitic. Not long since we were taught that involvement of the nervous system was a late manifestation of the disease; now we know that this is not so. The most serious of the organic diseases of the nervous system are syphilitic; myelitis and cerebral and spinal endaritis may occur during the first months after the infection, and tabes and general paresis, which are exclusively due to syphilis, often display their initial symptoms within five years. The conceptions of parasymphilis and metasymphilis have been a drawback, he says, in our treatment; now we know that syphilis is syphilis, no matter in what form it is encountered. The Wassermann reaction shows us this, though it may not be strictly specified.

In the Neurologic Institute of New York, a hospital devoted exclusively to nervous and mental diseases, the Wassermann reaction has been tested upwards of ten thousand times in a great variety of nervous diseases, and in all these the evidence of syphilis agreed with the clinical findings and the positive reaction. The negative Wassermann reaction does not, however, necessarily exclude syphilis. The treatment by the rank and file of the profession of the present day is the old one of mercury by the mouth for a year, mixed treatment for another year, and after that the iodids alone. He does not say that this is practiced by all, but for one case properly treated and controlled by the Wassermann reaction he believes that twenty are treated in the old-fashioned way. The old beliefs are regrettably still held by the majority and are even taught in some places.

With the present difficulty of obtaining reports of cases, statistics of the number of syphilitics developing nervous diseases are out of the question. In conclusion, Collins discusses the clinical and therapeutic value of the Wassermann reaction and the dangers and comparative values of salvarsan and neo-salvarsan. He thinks the dangers have been exaggerated. In nearly 1,000 administrations of salvarsan he has seen serious consequences in only one case, an apparent myelitis which

recovered in four months, and was probably edema rather than inflammation. Severe toxic effects have been observed in four cases similar to acute arsenical poisoning, but readily yielding under treatment. Salvarsan, he thinks, is more efficient than neo-salvarsan, but though the latter has some advantages in administration, its effects are not so good.—(*J. A. M. A.*, Sept. 13.)

Epinephrin for Prophylactic Purposes Before Salvarsan.

Galliot of Paris (*Paris Medical*, Jan. 24, 1914) observes that whatever precautions be taken to secure a pure, undecomposed solution of salvarsan or neo-salvarsan for injection, a certain number of patients is always met with who are hypersensitive to the drug, sometimes to salvarsan only, sometimes to neo-salvarsan only, at times even to both. Milian's procedure, consisting in the previous injection of 1 mg. (1/65 grain) of epinephrin, appears to be the best method of prophylaxis against these "nitritoid attacks" brought on by the specific remedies. The author has used epinephrin for the same purpose, but has given it by the mouth, 15 to 20 drops of the 1:1000 solution being administered in a little water ten to fifteen minutes before the injection. Excellent results are claimed for this simple measure. Thus, two patients are referred to who had always experienced a "nitritoid attack" after neo-salvarsan injections. Immediately after the injection the face would become congested, a tingling sensation in the throat be complained of, and nausea and even sometimes vomiting accompany these phenomena. No further symptoms developed after epinephrin had been given as prophylactic, the patients experiencing no discomfort of any kind, either on the day of injection or subsequently. These patients had already received several injections of 0.3 to 0.45 Gm. of neo-salvarsan, always accompanied by mild nitritoid attacks, and the author had not thought it wise to exceed the doses mentioned. As the congestive disturbances entirely disappeared after the use of epinephrin had been begun, however, 0.6 Gm. was then injected without any difficulty resulting. The epinephrin had not yet been tried by mouth in cases of nitritoid attack due to old salvarsan. In view of the simplicity and harmlessness of the measure, however, it is likely to be of some service, more particularly in timorous patients.—(*Month. Cyclop. Pract. Med.*)

Wassermann Reaction in Hereditary Syphilis and the Use of Salvarsan.

L. Emmett Holt of New York finds that cases of hereditary syphilis almost invariably respond positively to the Wassermann test, even when previously treated by mercury, unless the treatment has been very thorough and protracted. After the use of salvarsan it has been Holt's experience that it disappears much more regularly and earlier, but even then in most cases only after repeated injections.

Of 178 tests made in hospital patients showing no definite signs of syphilis, positive reactions were obtained in but eleven and five of these were shown on fuller investigation or subsequent findings to be pretty clearly syphilitic. Two of the remaining six were doubtfully so.

The great portion of congenital deformities have no relation to syphilis, since not a single positive reaction was obtained in fifty-six consecutive cases.

Of sixty-two patients suffering from malnutrition or marasmus, only five gave a positive reaction, and are included in the group above mentioned. Of the re-

maining fifty-seven, nearly one-third had very considerable enlargement of the spleen or liver, or both. Since the cases examined were selected from a much larger number, as those most likely to be syphilitic, we cannot regard syphilis as a common cause of marasmus. Since the error, when one exists, is almost invariably on the positive side, the technic of those who find a very large proportion of positive reactions among marasmus patients in institutions is open to suspicion.

Alan Brown is of the opinion that the luetin reaction is a valuable addition to our means of diagnosing hereditary syphilis. The authors treated thirty-four cases of hereditary syphilis at the Babies' Hospital with intravenous injection of salvarsan, after dissecting down on the vein after general anesthesia. The doses ranged from .05 gm. in infants up to eight months old to .10 to .20 gm. salvarsan or .15 to .30 gm. neo-salvarsan for children older, according to age. They found that immediate and striking benefit followed the infections and this in many cases in whom mercury had been used with little or no apparent benefit. The authors feel that it is well to follow up the early use of salvarsan with mercurial treatment and to repeat the salvarsan at yearly intervals.—(*Am. Jour. Dis. Child.*, vol. VI, No. 5.)

Luetin Reaction.

All who have used it are practically agreed, according to A. L. Kilgore, Boston (*J. A. M. A.*, April 18), that the luetin test is valueless in primary and secondary "untreated" syphilis. In over 1,500 tests in the later stages the percentages of positive reactions reported by a number of different authors vary about as follows: "Tertiary and latent, from 65 to 100 per cent.; congenital, from 10 to 96 per cent.; cerebrospinal 'parasyphilis' from 30 to 80 per cent." Variations, he says, such as these in the reports of different observers are not surprising except in the wide differences in congenital syphilis. The total number of tests in congenital cases is still very small and more are needed. It is generally agreed that the luetin test when positive is highly specific for syphilis. Out of 2,000 control cases only fourteen are reported as giving positive reactions (12 of these by Kaliski).

He describes the mode of applying the test, which is by the injection of an emulsion of a killed culture of the spirochete mixed with equal parts of normal salt solution; 0.07 of this is injected as superficially as possible under the skin. In a positive reaction a raised papule appears, usually within one or two days, gradually increasing to 10 to 20 mm. diameter, and then gradually fades away. It frequently goes on to pustular formation, but rarely requires opening, and there is very little pain or tenderness. Constitutional reactions are rare. None appeared in the 150 tests made by Kilgore. A tabulated statement of the comparative results of the luetin and Wassermann tests in thirty-six syphilitics is given, showing a larger percentage of positive results in the former. The value of the luetin reaction appears in the small number of cases in which it is positive. While the Wassermann is negative (four out of the thirty-six cases). In that way it is of definite value and it is employed for this reason in the Massachusetts General Hospital. He describes the effects of reinoculations and certain irregular types of reactions. Two of the reactions in the series were of the hemorrhagic type. Second injections apparently do not give positive reactions in non-syphilitic cases.

Special Article

OYSTERS AND THE PUBLIC HEALTH.

Some scientists have of late attempted to disprove the long established belief that the oyster may disseminate typhoid fever. It would seem, however, from the results of the observations of many clinical reporters that this shellfish plays an active part in spreading typhoid. The New York City Board of Health, adopting this theory, has been actively engaged in preventing the possibility of contagion, so far as lies in its power. In its *Bulletin* Vol. III., No. 11, it takes up the subject in detail. It shows that the oyster feeds upon microscopic animal and vegetable life, which it gathers by allowing water to filter through its gills. While the oyster will reject certain micro-organisms, those which come from sewage are not thrown out. The oyster filters many gallons of water daily in order to obtain sufficient food, and any bacteria which may be in the water are very favorably located for entrance into the human stomach through the agency of the oyster.

The fact that oysters grow rapidly in slightly brackish water is well known to oyster growers. As the shores of bays and rivers in which the water is more or less brackish are almost invariably well populated, there is apt to be considerable pollution. In this connection, there is an important point which receives scant attention by oyster growers, namely, the tidal phenomena due to natural or artificial conditions. It is a commonly accepted theory that all matter dumped into a bay or river is quickly carried to sea on the ebbing tide. This in many instances is not the case and such material will frequently oscillate backward and forward, sometimes taking days to reach the sea.

Another important point is that when an oyster grown in salt or slightly brackish water is removed to water which is nearly fresh, it absorbs water very rapidly and assumes a "fat" or "plump" appearance. The "fattening" process is easily explainable by the well known principle of osmosis, until the saline content on both sides of the membrane is identical. The fresh water of the creek or river is separated from the salt water contained within the oyster by a porous animal membrane and the amount of fresh water which enters the oyster is greatly in excess of the amount of salt water which passes out. The oysters are permitted by the growers to remain in fresh water until a sufficient quantity has been absorbed to cause them to become bloated. This is generally accomplished on an ebb tide and the oysters while swollen are erroneously called "fat." This treatment of the oyster is variously referred to as "plumping," "fattening," "drinking" and "washing." From a sanitary standpoint, the objections to "drinking" oysters are numerous. The "drinking" is practiced in creeks or rivers and it is an extremely difficult matter to keep such streams sufficiently free from pollution to render the practice safe. The danger of pollution may be appreciated when it is stated that at one "drink" in the vicinity of New York City an inspector counted twelve boats "drinking" their oysters on the same tide. Each boat had a crew of from six to ten men who were compelled to remain on board for from three to four hours. In none of these boats had any arrangement been made to catch and hold fecal matter or urine, and during the inspector's visit the water was polluted on four occasions by the men in the boats. This creek was situated in the center of a large salt marsh, its shores were uninhabited, and there were no visible

sources of sewage in the immediate vicinity of the "drink." Nevertheless, bacteriological examination of oysters collected from the various boats revealed a high degree of pollution, due, in all probability, to the actions of the various crews.

Another important point to be considered is the season of the year at which oysters are harvested. In the early fall months, September and October, the amount of fresh water in the streams is small while the degree of contamination is great, due chiefly to the fact that during the summer months, more especially in August, the rains are light, and because a certain amount of heat is a very essential factor in the growth of various forms of bacteria. Later in the season the fresh water streams are replenished by rain, contamination is lessened by dilution, and the growth of bacteria is checked to a certain extent by the lower temperatures prevailing. Still another point is the hibernation of the oyster. As an example of the great difference in the degree of oyster pollution ordinarily existing at this season of the year, the result of an investigation conducted at Jamaica Bay, L. I., may be cited. On November 16, 1912, six samples of oysters were collected from various growth whose grounds and floats were located in the vicinity of Ruffle Bar. On examination of the shell-water of these oysters, colon bacilli were found in as high dilution as 1/100 c.c. The temperature of the water on this date was about 57 degrees Fahrenheit. On December 9, 1912, a second sample was collected from each of these beds and floats, and upon examination of the shell-water, colon bacilli were found only as high as 1/10 c.c. The temperature of the water on this day was below 50 degrees Fahrenheit, as the night preceding had been quite cold. The average temperature of the atmosphere was 23 degrees, and the oysters were covered with a thin coating of ice.

In the early part of November, 1912, a sanitary survey of Chesquake Creek, N. J., in which oysters in large quantities are habitually "floated," was made. The visible sources of contamination were very few, but the inspection demonstrated beyond question that oysters grown and "drunk" under the most favorable conditions are very liable to reach the market highly polluted on account of the lax habits of the oyster men. Another point, very evident at this time, was that so long as the practice of "drinking" is permitted, boats engaged in dredging or otherwise handling oysters, should be provided with toilet accommodations, so arranged as to prevent the discharge of filth into the water while the boats are at the "drinks." The bacteriological examination of oysters and water collected at this "drink" showed that both were dangerously polluted.

In Great Britain more than in other European countries, shellfish transmission of typhoid fever is regarded as quite frequent. In 1896, Newsholme, health officer in Brighton, published careful studies showing that 30 per cent. of the typhoid infections occurring in that city were due to oysters and other shellfish. For Belfast, the investigations of Mair showed that the extensive increase of typhoid fever from 1897 to 1909 was due in a large measure to infection from cockles gathered along a shore not far from the main sewer outlet. Thresh and Wood studied an outbreak of typhoid fever occurring in the county of Essex in 1902, and finally traced it to oysters. They noted particularly that while both Portuguese and American oysters were planted, only the former were involved, because, being unisexual, they are considered good even in summer, while

the American oyster, being hermaphrodite, is usually held to be unfit to eat during the summer. This observation, by the way, is significant in view of our present knowledge concerning the influences of temperature on the habits of oysters. This will be discussed below.

So far as New York is concerned, it may at once be said that oysters probably play but a small part, if any, in the annual autumnal rise of typhoid fever occurring in this city, for the infections constituting this rise regularly occur in July and August, the time when there is only a very small consumption of oysters. In an analysis of over 4,000 cases of typhoid fever occurring in New York City in 1907, Billings noted that two per cent. gave a history suggestive of oyster infection. At the same time, in more than half of the total number of cases, the source of infection had to be marked unknown, so that the proportion of oyster-borne infections may actually have been considerably higher than two per cent. Chapin, in commenting on conditions in Providence states that during the years 1902-1905, of 263 typhoid fever patients who replied definitely as to whether they had eaten oysters, only 26, or about 10 per cent. said that they had. He adds that "very few oysters are eaten by laboring people, but at present laboring people furnish fully their share of typhoid fever."

One of the earliest outbreaks of oyster-borne typhoid fever mentioned in the literature, occurred at Wesleyan University in 1894, and was most carefully studied by Professor Conn. The outbreak embraced 26 cases and was limited to students at the university who had attended an initiation banquet on October 12th. After excluding every other possibility, infection was finally traced to oysters. "These had been grown in the deep water of Long Island Sound and had been deposited in the mouth of a fresh water creek for a day or more to freshen, before being sent to Middletown. Within about 300 feet of the place where they had been deposited, was the outlet of a private sewer coming from a house wherein were two cases of typhoid fever, a lady and her daughter. They were taken sick at such a period as to call in a physician for the first time October 11th, which, of course means that the disease had been in its period of incubation for probably considerably over a week earlier. The oysters were sent to Middletown on October 10th, and therefore they were deposited at this place in exactly the time to receive contamination during the early days of these two cases of typhoid."

In this connection, the following quotation from a Report on Typhoid Fever at Atlantic City, 1902, is of interest. "A salt-water oyster is rather bitter and 'thin' when first taken and must be 'fattened,' 'freshened,' or 'fed' before it is 'prime.' This 'fattening' process consists in putting the oyster into a mixture of fresh and salt water in certain proportions. They remain there for 24 to 48 hours and are then ready for delivery, greatly increased in size from their 'drink.' During ten months of the year the 'fattening' process is done near Absecon, where the waters are pure and safe, but in July, August and part of September the largest dealers have been 'fattening' their oysters in waters taken from the points already specified as infected with sewage."

"We find on investigation that all the typhoid patients, with few exceptions, had indulged freely in these raw oysters and undoubtedly contracted the disease from them."

The outbreak of typhoid fever last year in Goshen, N. Y., was traced by Stiles to oysters infected by "drinking" at the mouth of a sewage-polluted creek emptying into Jamaica Bay.

In almost all the instances of oyster-borne typhoid fever described in this country, "fattening" or "drinking" of the oysters has been found to play a prominent part.

Certain facts concerning the biology of oysters, at least of American oysters, appear to have an important bearing on the transmission of infectious diseases. From the studies of Gorham, Pease and others, it appears that oysters pass through a spawning period, varying, in northern latitudes, between the middle of June and the first of September. During this period of existence the oysters' activities are largely directed toward reproduction. After the spawning season, the adult oysters proceed to take on renewed physical development, and this continues in proportion to food supply and other conditions of environment until the first part of November. When the temperature of the water falls below 45 degrees to 40 degrees F., the oysters appear suddenly to cease their usual activities, and practically enter upon a state of more or less complete hibernation. In the large majority of instances a continuous temperature under 40 degrees of the water, will prevent the oysters from opening the shell and actively drinking the surrounding water. It seems probable that almost without exception, oysters existing in this hibernating condition, even in greatly polluted waters, contain but very small numbers, if any, of sewage bacteria. So far as this part of the country is concerned therefore, it would appear important to guard particularly against pollution of oysters when the temperature is above 40 degrees to 45 degrees F., in other words, especially in the early fall and in the spring. G. W. Stiles, Jr., in an article entitled "Shellfish Contamination from Sewage-Polluted Waters and from Other Sources," published by the Department of Agriculture, says: "The shellfish interests rank among the most important industries of the country. It was estimated in 1904 that there were more than 25,000,000 bushels of oysters marketed in this country, valued at nearly \$20,000,000. It is apparent that a grave danger threatens a valuable industry as well as the public health. The contamination of shellfish from sewage-polluted waters presents a sanitary problem of increasing importance to those interested in the production of pure food supplies. Until comparatively recently there has been but little apprehension in this country regarding the injury to oysters from this source, but sanitarians are now awakening to the fact that either sewage must not be promiscuously emptied into our natural bodies of water or the shellfish industries must in many cases be removed to points far distant from their present locations."

"The proper control and location of oyster beds in relation to public health should be a matter of great concern to those engaged in the industry. In selecting these it is not only essential to oyster men to consider the locality best adapted to the growth, flavor, size and appearance of the oysters, but they must also consider the possibilities of sewage contamination. Close proximity to any habitation paves the way to possible pollution, and with the multiplication of dwellings the chance of dangerous contamination increases. Because of insanitary methods of sewage disposal large areas of once valuable oyster grounds are at the present time subjected to conditions which render the shellfish taken from them wholly unfit for food purposes. On the other hand it should be observed that investigations have shown extensive oysters' layings to be free from serious contamination, yet in these very localities sum-

mer cottages are springing into existence, the nearest villages and cities are rapidly encroaching upon the oyster territory and the community does not concern itself especially about the disposal of sewage.

"The New York City Department of Health has demonstrated that the beds from which oysters are taken for consumption in this city often lie in grossly polluted water. It is not the depredation of the star fish, borers, drum fish, etc., that threaten the life of the shellfish industry, but the contamination by wastes. A thorough sanitary survey of every oyster bed should be made and this should be supplemented by repeated bacteriological examinations of both the water and shell stock taken at regular intervals under varying conditions.

"There are many factors which may influence the degree and extent of sea water pollution, and before passing judgment on the sanitary condition of a particular oyster laying, all the facts in the case should be considered. The influence of tidal change, percentage of sunlight, amount of rainfall, seasonal variations, prevailing winds and currents, the depth, and the amount of salt in the water must all be considered, though of course the proximity to sources of possible contamination is the most important item. Oysters offered for sale from polluted beds are in constant danger of seizure and condemnation by public officials. The occurrence of sewage matter in oysters cannot be tolerated from a public health point of view."

It is apparent that this important subject is being given the attention it deserves by local boards of health and the time is not far distant when this source of typhoid dissemination will be entirely eliminated.

Correspondence

STANDARD FOR ETHICAL PUBLICITY FOR THE PHYSICIAN.

To the Editor of the MEDICAL TIMES:

Your interesting symposium on the Ethics of Publicity in the May issue of the MEDICAL TIMES moves me to offer a leaf from a practical observation of half a century which may serve as a "Clinical Demonstration." There is a fallacious idea in the minds of many that the appearance of a physician's name in the public prints results in an immediate rush of patients to his office. This false idea originates in ignorance and causes the designing doctors who, "like the poor, are always with us" to welcome the reporter in search of a story with open arms, and on the other hand to wring the soul of the ethical doctor with agony in fear of the lost professional dignity.

Having "no axe to grind" let me say for the benefit of my colleagues, that so far as I know my name has appeared in the newspapers of this city perhaps more than that of most of my contemporaries and *I have not earned the cost of the time given to one interview.* It is true I always refuse to enlighten the public through the lay press on *methods of treatment.* (I may say however, in parenthesis that the public is wary of the doctor who exploits his own skill, so that this fact does not affect my experience.)

In 1889 or thereabouts it was my fate to have the now renowned pianist Josef Hoffman brought to me for treatment when he was electrifying American music lovers with his precocious talent. Enormous crowds filled the opera houses in this and other cities, filling the pockets of Mr. Abbey, his manager, and of his

father, when I felt it necessary to interdict his concerts. After considerable parleying during which the manager brought social and professional pressure to bear upon me in vain, the boy musician ceased his concerts suddenly. Pressure failing to move me from professional duty the manager applied the legal screws, advised by his lawyer, also in vain. I sent him to Professor Mendel in Berlin who agreed with my directions and forbade his playing in concert for two years with the result that a great musician was saved to the world. Naturally my name figured in the papers every day and to save time I was compelled to give the reporters who besieged my house a collective interview at ten every night with regard to "little Josef's condition," for the case had become as notorious as if the boy had been a president or king.

If this notoriety brought me any shekels I have not been aware of it.

Since 1890 my name has frequently figured in the newspapers on the subject of Public Baths and Hygiene. The financial result has been a lot of letter writing and outlay of postage stamps.

The investigation of the European Spas last summer in the interests of the State Reservation Commission caused my name and fame (?) to figure in the public press. The financial result was that yesterday I received one letter from Chicago inclosing a munificent fee of Five Dollars for advice as to choice between Vichy or Aix-les-Bains for a stomach trouble. Many telephone inquiries regarding the Saratoga Springs have occupied much time and correspondence.

I am glad to read in the article of that veteran but not maudlin defender of the dignity of our calling, Dr. John A. Wyeth, that he approves as "an ideal method the course pursued by the New York Sun, the editorial columns of which are devoted to the enlightenment of its readers on all matters relating to public health" and I may add, to an effort to modify, or remove the singular prejudice now existing in the minds of the representatives of the people who, utterly oblivious of the altruism of the average physician, persist in passing laws discriminating against him.

My most recent experience in this matter occurred only a few days ago when called upon by a representative of the New York Herald for an interview on a blatant advertisement in its columns. The latter was "A Warning to Vaccinators and an Appeal to the Board of Aldermen to Prohibit Compulsory Vaccination," in which an article of mine giving statistics of the Philippine Army's protection by vaccination, is pilloried as "an astonishing piece of medical humbug from the great Dr. Simon Baruch" (sic) and which favors me with several complimentary allusions to medical eminence that quite overwhelm me. I shall be glad to report the financial yield of this ad. Meanwhile I would discount it at an insignificant figure. It will, however, be an agreeable experience to read in a newspaper a refutation of statements made by a large advertiser in its own columns. The Evening Sun, I may say, actually lost this profitable advertisement since the publication of my refutation, which I regard as a worthy example to be commended. I warned the Herald man of the same fate but he persisted in obtaining the interview.

New York, July 1, 1914.

SIMON BARUCH.

In rheumatism in children, pain is not a predominant feature.

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Certain Limitations of Social Service.

Some of the zealous workers in the field of medical social service are wondering why their methods are not being adopted more rapidly and enthusiastically by hospital authorities. As usual, the medical profession is being accused of ultraconservatism in this as in other matters. The doctors are asked to reveal vision, to develop a social conscience, and so forth.

Now it is our belief that the conscientious doctor is thinking as deeply and as hard as anyone else. It is his vision which makes him chary about taking up things which promise nothing *radical*. He believes that it is better to do nothing than to *play* with our social sores. There is a deeper conservatism than his which cannot glimpse the abolition of the fundamental social causes of disease. The doctor sees in many of the sociological activities of the present day nothing but the regulation, perpetuation and institutionalization of poverty and illness.

Medical social service should be applied in all hospitals, but we must not think of it as anything other than one of the conservative social forces of the day. With all due regard for it and its promoters, it is not so inspiring as it doubtless seems to some; careful analysis of it leaves all but the sentimentalist rather cold. So far as we have been able to discover, it carries in its platform no insistent note of protest against vicious conditions. It is only ameliorative in its aims and has no concern with radical programs. It is merely charity made more efficient. Its ethical content is not deep. After the social causes of disease, through it, are revealed more clearly, what then? It is a useful form of service and justifies itself, but let us have no misconceptions about it. Its development in utili-

tarian America was inevitable, and it will help greatly in minimizing deplorable displays of human wretchedness. Such indexes of our abominable social order—the worst, according to the late Alfred Russel Wallace, that the world has ever seen—as such displays constitute require very efficient scavengers. It is well to remember—if you really have any vision—that public decency would be grossly outraged, and great reforms possibly invoked, if the efforts of the social disinfectors employed as retainers by the powers that be were to be seriously relaxed. Anything which serves to deodorize further our social putrescence is warmly welcomed by those constitutionally unable to become impatient with our social patchings and tinkering. What social service will avail to stimulate their vision?

We declare for its adoption by all hospitals as a matter of expediency. We endorse it in the same sense that we endorse every other makeshift or buttress of the present social order. They say the best way to get a bad law repealed is to enforce it. Similarly, it may be that the fullest application of the principles underlying the social order will soonest topple over the whole brutal machine. One of the cardinal principles of that order is merely to tinker with vicious results, and never, by any possible chance, strike at the roots of evil. Every figurative bludgeon is in full utilization in the enforcement of these cardinal principles.

Hist! Did anyone remark that now that the social causes of tuberculosis are well known and “eliminated” the death rate shows a declension? The answer to that impudent affirmation may be found in the *Medical Record* of April 25 in an article by Thomas J. Mays.

On a Contemporary's Defence of Newspaper Publicity.

The interesting theory is offered by one of our esteemed contemporaries that if Mendel had published the results of his experiments in the field of heredity, not in a journal of science, but in the newspapers of his day, that the world of science would have been obliged to take note of his discoveries, that Darwin would have modified his pronouncements in respect of evolution, and that Mendel himself would not have died in obscurity and his work been overlooked for twenty years. Our contemporary reasons that this is a conclusive argument in favor of newspaper publicity.

Mendel read his epoch-making paper before a scientific body. It was published a year later in a scientific organ. He also attempted to interest Nägeli, the noted German botanist, in his remarkable results. This eminent contemporary ignored them. A newspaper campaign would only have discredited his work the more, as we view the matter, and retarded still more the acceptance of his great contribution. Mendel knew that his discoveries would have to be taken account of, and it is to his everlasting credit that he adopted no doubtful methods of advertising. He was a pure scientist, with none of the instincts of the charlatan in his composition. He did everything that he could have been expected to do to bring his contribution to the notice of the scientific world. If the German botanist ignored his findings, what reason is there to suppose that Darwin would have reversed his conclusions? Some things must be left to time. Shakespeare is for all time, but was sneered at by his contemporaries. What is the space of twenty years in the whole gamut of time? One of the greatest vices of present-day “science” is the publication of those premature contributions known as “preliminary notes.” And not content with

this, our friend's pronouncements have a curious way of appearing in the daily press. And what comes out of all this hysterical haste? What more disgusting episodes could there be than this everlasting publishing of alleged results of cancer and tuberculosis experiments, followed by desuetude?

Our Mendels are few, and are never found on the Chautauqua circuits of science, along with the yodlers and acrobats. The more vociferous the chorus, the more suspicion of emptiness. The messages of the Mendels are addressed to all men and all time. That they should be ignored for a time is matter of little consequence. Of course their eternal character is almost sure to be missed by tin-horn scientists. And really great men are not obsessed by personal conceits. They are not mad for instant recognition. Nor can it be successfully maintained that great harm is done either to them or to mankind by delays which are short when measured by the long centuries. Indeed, such men are usually far ahead of their age, which is unprepared for their advanced contributions. The more puerile the "message" the more haste do we see evidenced by the messenger.

Public Hospital Reform.

Mr. John A. Kingsbury, New York's Commissioner of Public Charities, is to be highly commended for his efforts to regenerate our public institutions. At the present writing it looks as though his proposed reforms would go through. An administrative Hercules appears to be needed in this department of the city government, and Mr. Kingsbury makes a noise like a Hercules. Naturally enough he has met with both insidious and blatant resistance, and has been viciously criticised in certain quarters. That is the lot of any full-sized man who tackles any big problem that has been permitted for many years to slide along without radical action. It is remarkable how many forces are at once felt by a public official who starts in properly to fulfil his oath of office—forces that represent a host of reactionary interests. Courage of a high order is called for on the part of high municipal officials, for some of the forces that they have to meet are powerful, sinister and subtle. We are in the habit of thinking that courage is not much of an asset in our centers of civilization, which is a gross error. And the moral courage required is of a much higher order than the physical courage of the frontier and jungle.

More power to Mr. Kingsbury and others of his sort! We medical men know at first hand the conditions against which he is battling, and are thankful that a modern Theseus has at last attacked the minotaur who resides in the Metropolitan Hospital on Blackwell's Island, devouring the human tribute offered annually by the American Athens.

Specialism an Evil in Athletics.

More than half the students at Yale take part in some form of athletic diversion. This is far more important than the training of a few for the winning of victories while others sit upon the bleachers. It is in line with what we see among the better class of the English—wholesome interest in sport on the part of many instead of the performance of prodigies by athletic demigods. We are sorry to observe, however, that most of our fans never think of handling a bat themselves. Certain individuals in America develop wonderful efficiency in athletics, in accordance with American ideals of expertness and specialism, while the majority of men are con-

tent to gape at their performances and sandbag their own livers with cathartics in lieu of healthful exercise. Don't we do the same thing in the world of business? On the one hand we have our captains of industry, and on the other hand the less than half efficient rank and file, agape at the Carnegies and Rockefellers. And there are economic cathartics for the said rank and file which are too obvious to require mention.

The Psychic Traits of the Tuberculous.

Those who have been puzzled by the peculiar psychic traits of the consumptive will learn much from two articles written by Fishberg—"The Psychology of the Consumptive," *Medical Record*, April 16, 1910, and "Some Psychic Traits of the Tuberculous," *Interstate Medical Journal*, March, 1914. Not only physicians and nurses, but social service workers, will have their special problems clarified by a careful perusal of these papers. Those who have to deal intimately with the consumptive frequently note apparently inexplicable things about him, and the more intellectual the type of patient the more pronounced the peculiarities. Fishberg discusses the exaggerated ego of these patients, their colossal selfishness, and their susceptibility to suggestion. The last explains their credulity with respect to the Friedmann twaddle, and also their apparent improvement under the turtle treatment. Fishberg tells how Mathieu and Dobrovici, at the Andral Hospital in Paris, announced to their patients a new cure, which they dubbed *Antiphymose* and which consisted simply of physiological salt solution. They were kept waiting for the "specific" for a long time and only "suitable" cases were selected. There was phenomenal gain in weight, hemorrhages ceased, temperatures became normal, and all other symptoms were ameliorated. *Even physical findings in the chest showed distinct signs of amelioration of the process.*

Next to this trait of suggestibility comes selfishness, developed in the course of self-centered hygiene. The patient may vanquish the disease, but often survive as an unlovely character, spoiled forever.

Those who have had much to do with this class of patients will recall the almost invariable ungratefulness that they show for benefits received. Before entrance to a state or city sanatorium their lives may have been most precarious, yet after subsisting on the public bounty almost luxuriously for periods of one and two years they will usually criticise captiously the diet and care that they have received. Those unacquainted with consumptives' traits will easily be misled by their testimony. One begins to understand where the trouble lies when he finds the consumptive or the arrested case systematically capturing the best food in the home, even though children suffer deprivation. Sacrifices on the part of others are accepted complacently, or demanded brutally.

Of course the toxemia must be taken into account in considering the consumptive's traits, and it must be remembered that he reveals traits at times which, while related pathologically to the toxemia, are quite the reverse of unlovely. If he happens to be a person of high talent or positive genius his powers are often augmented and exalted by the stimulus of the tuberculous by-products, the excitative effects of which upon the psychological switchboard have become familiar in the persons of such well known personages as Robert Louis Stevenson, Keats, Schiller, etc. Optimism and intellectual brilliance have often been noted by Fishberg in his patients of the better classes.

Medical Editorial Table

The Tyranny of Prejudice.

Amid the chorus of the strident voices which have latterly thundered so brassy the harmful qualities of the cigarette, the writer sought in vain for one statement which would show that even the cigarette, unpopular though it be, and the undisputed cause of epilepsy, softening of the brain, alcoholism, hysteria, neurasthenia, insomnia, husbands beating wives, loss of manhood, tuberculosis of the larynx and a few other mild disturbances, had at least what to be charitable might be called one solitary negative virtue. But though discouraged on account of this failure, such is his belief in the adage that everything is for the best in this best of worlds that his hopes were not completely squelched; and that he was rewarded for his patience and forbearance and his unswerving belief in optimism should not be too lightly thought of by the reader, for if the latter will turn to the pages of the *Medical Record* of May 30th and read Dr. George W. Vandegrift's article on "Tobacco Amblyopia" he will understand at once why the writer is still hopeful that one of these days the reputation of the cigarette will not be that of an outcast. To quote: "The disease (tobacco amblyopia) is usually found in men about or after the age of thirty-five, and more frequently in pipe and cigar smokers and chewers than in cigarette smokers. The latter class more easily escapes probably first because there is no absorption through the mucous membrane of the lips, the paper wrapper serving as protection, and second, because of the rapid and complete combustion of the tobacco." Now if what Dr. Vandegrift says is true, might we not hope that before long other investigators will come to the front.—(*Interstate Med. Jour.*, June, 1914.)

The Transmission of Typhus Fever.

Until recently no exact experiments had been reported on the transmission of typhus fever from man to man by means of the bite of infected lice. There are a number of instances in the literature which strongly suggest this possibility, but the evidence has not been conclusive. Sergeant, Foley and Vialatte, however, have recently reported the successful transmission of typhus to man and to the monkey by means of the body-lice and possibly also by means of the eggs from infected lice. The mere bite of infected adult lice is sufficient to transmit typhus fever to man. Lice taken from a person so infected are infective for the monkey. The inoculation of the eggs from infected lice, these observers claim, will produce typhus fever when inoculated into man by slight scarification of the skin. These experiments seem conclusively to settle, by means of experiments on man, the rôle of the body-lice in the transmission of typhus fever.—(*J. A. M. A.*, June 20, 1914.)

"Medieval Ethics."

The *New York Times* under date of May 15 comments with some bitterness upon the action of The Association of American Physicians in "refusing to let Dr. Plotz tell its members about his discovery of the typhus germ because the facts of his success had already appeared in this paper." The information did not come from Dr. Plotz and was published without his knowledge. The same information would have been published a day later in any case, after the reading of the paper. The *Times* thinks our ethics medieval. Of course the

action of the association was justified if it had reason to believe that Dr. Plotz lacked adequate proof of the correctness of his observations. The code of ethics is essentially the outgrowth of centuries of experience and is based primarily upon the knowledge that the lay mind is not trained to appreciate what is of real value and what is only specious in medical practice, and incidentally many physicians lack a refined judgment in distinguishing the real from the apparent. Real advances in medical science should be placed as widely as possible before the public, but such announcements should only be made after due trial has proved their worth. The restrictions of the code of ethics should never be applied arbitrarily, but judiciously and temperately; were they to be entirely removed the news columns would be flooded with statements of individual opinion—illogical, unwarranted, the expression of callow, myopic, selfish minds. The fundamental purpose of the code of ethics is to protect the ignorant and credulous from charlatans and to foster high altruistic ideals within the profession, and is not to impose arbitrary barriers for the protection of mysteries from the vulgar. With the disappearance of ignorance, when every citizen shall be able to judge accurately for himself, when selfishness and prejudice shall have disappeared from the earth, then, and not until then, will it be safe to do away with all restrictions, whether in medicine, law or government.—(*Long Island Med. Jour.*, June, 1914.)

Typhoid Death-Rates.

In the year 1913 Boston had a typhoid death-rate of 8.4 per 100,000 population, standing twelfth among United States cities. Cambridge, Mass., was fourteenth, with a rate of 9.2, and Lowell, Mass., fifteenth, with a rate of 10. During the three-year period 1911 to 1913, Cambridge stood second in the United States, with a rate of 5.6, and Boston and Lowell stood eighth, with a rate of 8.6 each. Philadelphia, which for many years has had a rather poor reputation regarding typhoid, had a rate of 15.7 in 1913, almost double the rate in Boston. In Chicago during the fall of 1913 there was an increase in the number of cases, the reason possibly being an impure public water supply. It is interesting that New York, the largest city in the country, should have had the lowest typhoid rate in its history, namely, 7 to 100,000 of the population.—(*Boston Med. and Sur. Jour.*, June 11, 1914.)

The Child and the Cinematograph.

As a result of an inquiry just made among its head teachers by a Lancashire elementary education subcommittee, it was determined that the exhibitions are physically detrimental to the scholars, owing to late hours, loss of sleep, and bad atmosphere; they become less thrifty, acquire an unhealthy thirst for pleasure and are disinclined for steady work and effort. It is also stated that their eyesight is sometimes injured. There can be little doubt that in this country, as in England, habitual attendance results in moral and physical evil. The "movie" houses should be better regulated, for their suppression would be a calamity. In Germany where a paternal government regulates the management of public places and lays down hard and fast rules as to who may have the privilege or right of entry, it is ordained that no one under the age of fifteen years may visit a cinematograph entertainment.—(*New York Med. Jour.*, June 27, 1914.)

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

The Hospital's Endless Chain.

(With apologies to the author of "The House that Jack Built.")

This is the house the doctor built

This is the patient
That lay in the house the doctor built.

This is the germ
That infected the patient
That lay in the house the doctor built.

This is the tenement
That bred the germ
That infected the patient
That lay in the house the doctor built.

This is the man
That built the tenement
That bred the germ, etc.

This is the rent
That goes to the man
That built the tenement, etc.

This is the child
That was raised on the rent
That goes to the man, etc.

This is the car
That the child rode in
That was raised on the rent, etc.

This is the dust
That was in the car
That the child rode in, etc.

This is the sputum
That had dried in the dust
That was in the car, etc.

This is the patient
That spat the sputum
And lay in the house the doctor built.

This is the child
That now in turn
Lies in the house the doctor built.

Some sociologists insist that vice can be eliminated through education. Kneeland so argued before the recent General Federation of Women's Clubs convention in Chicago. "Goodness is simply a question of knowledge." "If people know what is right they will inevitably do what is right." Educate the children in the mysteries of life and teach them that the solution of their problems consists "in vital, personal relationship to the infinite and eternal God." "Teach ignorant fathers and mothers so that they will love and understand their children more than they do."

But some eugenicists insist that the moral destiny of people depends upon whether goodness is a dominant trait in them or a recessive one. Upon the fortunate possessors of dominant goodness it is evidently a great waste of energy to expend time and effort in inculcating what is already in them. It is to be presumed that such

people can't help being good. On the other hand, can one in whom goodness is decidedly recessive be educated according to the Kneeland method? For it is to be presumed that such people can't help being bad.

What's the answer?

The Late Theophilus Johnson: A Personal Sketch of a Distinguished Physician.

(Dedicated to our lovable eccentrics.)

At first it was "Johnson's hobby;" then he was regarded more seriously as a "reformer;" after that he was, without any malice, for the man possessed many lovable traits, ranked with the "bugs." His project never had a chance. They say that Semmelweis, the European discoverer of the etiology of childbed fever and the means of effective prophylaxis, after years of discouragement became really "touched" and used to take up his favorite theme on the street with anyone who would listen to him. Well, Johnson got like that, too.

What was it that dear old Dr. Johnson tried to effect? He had many systematized ideas, as the psychiatrists say, so we will speak of but one or two.

For one thing he entertained the theory that only a few published articles were read. Then he believed that most medical journals were published in the interest of other than medical men, and that the vanity of medical writers was merely taken advantage of. Thus the drug advertising scandal was also accounted for. Johnson attempted to induce the profession to withdraw its support from such publications and to found a central bureau or literary clearing house for the recording of all medical data prepared by physicians, such data to be bulletined to the profession in synopsis form and copies of the original articles prepared and filed in the counties of every State, where they would be accessible for reference, purchase, or loan. Johnson argued that journal articles are read only by their authors, and that no one, in any case, can read a tithe of the vast number of articles published, or even scan the field. This scheme, he claimed, would actually make for a better knowledge of medical literature. Then the very article that a reader might be interested in *to-day* appears *to-day* in the *Oklahoma Lancet*. Does the reader know of its appearance? No, of course not. Perhaps months afterward it could be found listed in some Index, but under the bulletin system you know of it and have it in synopsis form shortly after it is received by the clearing house, and then you can get the complete article from your official county station, even if that happens to be in Snake Root township. All the articles now written, however bad, are published, but if very bad have to appear in some wretched and obscure sheet, whereas the hopper of Johnson's democratic system would receive everything, good and bad alike. This would be as it should be, Johnson argued, because an article may be very bad in form and very rich in substance. Bad is a relative term. If an article were thoroughly bad, bad in form, lacking in originality and revealing little excuse for publication, how could the synopsis of it, prepared by an unbiased expert, fail to show its worthlessness? For example:

Synopsis of an article on hydrotherapy.

By P. D. Queer, M. B.,

Resident physician at Toxinaqua Springs Hotel.
Historical note.

The principles of hydrotherapy.

Action of the hot bath.

Action of the cold bath.

Action of the tepid bath.

Specific action of the waters at Toxinaqua.

Appendix: Guide to health resorts.

It was pointed out to Johnson at various times by different critics that we had a number of excellent special journals and that a man interested in particular fields of medicine could, by subscribing to one of these, probably get more information in the course of his career than he could well assimilate, and on all possible points. To this Johnson would reply by reaffirming his questionable premise that nobody now reads any medical articles except their authors. This little crochet of perfectly logical reasoning from unsound premises, and the founding of his life and thought and effort on captivating syllogisms, accounted, in the minds of Johnson's friends (he had no enemies), for the man's tremendous energies. That he became quite a character in the local medical world of his day was not remarkable.

But was there not some Mendelian factor at work in the man's mental machinery? What bearing upon his eccentric activities had certain peculiarities of his father, who was a village chancieeler in the doctor's youth? It is related that he obliged his fellow villagers, after the manner of George Francis Train, to address him always with great deference as "Citizen Johnson." In such peccadillos of progenitors may oftentimes be found the genesis of those crochets which confer notoriety upon descendants. The probability of solid achievement is inversely proportionate to the intensity of the crochet.

But such men lighten our labors and our moods. Without these lovable entertainers and intense partisans how dull and jejune things would be! They are benefactors whom we could not, would not, do without; and it is well that we so regard them, since they are irrepressible in any case. As sociologists, reformers and freak propagandists they contribute to our gaiety and even to our edification.

Johnson has been long enough dead for us to speak without indelicacy of certain intimate personal matters. He had considerable private means, which enabled him to carry on his propaganda without any financial difficulty and to establish some social prestige among the shallower members of the richer classes and among the restless proletariat, who are always true to their snobbish instincts in the presence of the elect who choose to patronize them and fraternize with them. He justified this possession of wealth—which nobody asked or expected him to do—by the curious declaration that large private means removed him from the blighting influence of the competitive struggle for a livelihood—another false premise, you see—and enabled him to make his contributions to progress.

G. K. Chesterton says somewhere that the lunatic is the man who has lost everything except his reason.

Under Ether.

In a few minutes Nurse Smith came and brought me down. Three doctors were awaiting me, and I was followed by Nurse Smith and two younger nurses. I was irritated by the solemnity of the whole party. When I tried jokes on my own accord they met them with sickly smiles, as an attempt to cloak timidity I did not feel. In a moment the surgeon directed me to mount the scaffold. At other times one would feel an embarrassment in divesting one's self to a single smock in the presence of three young women, but it seemed as natural in the circumstances as walking bareheaded in a

church. I mounted the operating table, warning them as I did so that they would have no slight task to retain me on my plank bed. The moment my head touched the pillow one of the doctors bent over me to test my heart. An instant later he placed something over my mouth and nose directing me to breathe with usual regularity. He was standing behind my head, so I saw only his face stooping above me. I clasped my hands over my breast, and decided to allow my fingers some motion to let off the inevitable excitement. The only anxiety I remember to have felt was lest I should become unruly as the ether gained on me, and disgrace my stoic resolution.

For what seemed an eternity no change came. Suddenly the light grew brighter, and a rigidity tingled through my limbs. It was not pleasant, and I felt my fingers flying in a rhythm of fearful velocity. Even this was not enough; my toes—always agile as a monkey's—joined in the dance. I wondered how long I could retain self-control in presence of such awful discomfort. A change passed across me, and my fingers locked with sudden stiffness. Speech was gone. Volition was gone. I was a dead weight; a subject on a board; toy of other wills. It was agony. My eyes rolled swiftly from one side to the other, seeing now with phantasmal and horrible distortion. A break came, and I forgot one moment where I was. I passed again into sense; my mouth was uncovered; no one seemed at hand. Horrible noises were in my ears. The ceiling, which now shone with terrible distinctness, seemed bending over the nurses; and the nurses, some without heads, some with two, were floating in the air. Voices were behind me. Fifty suggestions flashed through my brain; had the ether apparatus broken? Did they think me insensible? Would I have to lie feeling all with treble intensity, unable to speak or move? I raised myself on my elbows and asked with sudden effort:

"What has happened?"

Two doctors were at my side in an instant. They assured me that I was doing excellently, and begged me to lie still for my further dose of ether.

Now I was told to draw long breaths, and I drew eagerly and angrily, resolved to put myself, at any cost, out of pain.

I felt what seemed currents of blue vapor curling to my utmost extremities. Suddenly I was in a chaos of excitement, talking loudly and incoherently. Clouds of luminous mist were swirling round me, through which heads broke only at intervals. I felt I was talking of a lady I had known years before, and sudden terror seized me that I should spread forth all the secrets of my life. I could not be silent. The name was on my lips. With wild horror I screamed:

"Oh, no, I won't!"

"No, I won't!"

"No, I won't!"

"Oh, no, I won't!"

"No, I won't!"

"No, I won't!"

Using the sullen rhythm that forms in one's head during a railway journey. This did not suffice; I changed to a shrieking imprecation. Another blast of ether rolled through my veins. My hands broke from my control and waved in the luminous clouds. I saw them, and in an instant one hand went out before the other, my fingers spread and one thumb approached my nose after the manner of a street Arab. At the same moment the clouds rolled aside, and I saw the doctor bending over me. He called to the surgeon:

"Batby, look!"

The words reached me, and I echoed:

"Batby, look, ain't I funny?"

They laughed aloud.

"Now you're laughing," I cried. "Ha, ha, ha!" Mimicking with a frantic crescendo. Then their mirth infuriated me.

"I'm an initiated mystic," I yelled with fury; "I could rend the groundwork of your souls."

Not wishing to exasperate me they grew serious. "Ha, ha, ha!" I roared in ironical triumph, "now you're serious. Now you know what you have to deal with."

The clouds rolled over me again, now heavy, now opaque. Something thrilled in my neck. Were they beginning. The memory of control was obliterated; I yelled, I writhed with appalling agony. Another paroxysm of frenzy, and my life seemed to go out in one spiral yellow to the unknown.

The next period I remember but vaguely. I seemed to traverse whole epochs of desolation and bliss. All secrets were open before me, and simple as the universe to its God. Now and then something recalled my physical life, and I smiled at what seemed a moment of sickly infancy. At other times I felt I might return to earth, and laughed aloud to think what a god I should be among men. For there could be no more terror in my life. I was a light, a joy.

These earthly recollections were few and faint, for the rest I was in raptures I have no power to translate. At last clouds came over me again. My joy seemed slipping from my grasp, and at times I touched the memory of the operation as one gropes for a forgotten dream. I heard noises and grew conscious of weight. The weight took shape; it was my body lying motionless in a bed. The clouds broke, and I saw a gaselier over my head. I realized with intense horror that my visions were fleeing away, leaving scarcely a trace. I groaned in misery.

"Oh, if I could only remember! If I could only remember—remember."

I was sick and people were attending me.

I groaned still: "Oh, if I could only remember."

The clouds rolled further away; I recognized one of the nurses, and called out to her with sudden incongruity:

"By jove, there's Nurse Smith!"

She heard me, and bending over me she said: "Are you coming to? It was very satisfactory."

"What was satisfactory?" I asked, still dwelling on my dreams.

"The operation," she replied.

"D— the operation," I groaned. "If I could only remember, I'd write books upon books; I'd teach all earth of delight."

Every moment the recollection of my dreams was going off from me, being replaced by drunken exhilaration.

I was still suffering a good deal from nausea, but was so impressed with my wit that my drunken vanity left no room for low spirits. At this stage I began to regain power over my body; I remember moving each limb in succession, calling out in delight as I did so:

"There goes one leg. There's the other. There's one hand. There's the other."

Then I tried to raise my head but failed, and apostrophized it in language too racy to repeat.

Presently the nurses left me for their dinner, putting a hand-bell in easy reach.

The nausea returned and I rang lustily. My hand was still weak, and the bell slipped from my hold, tumbling nearly into my mouth. When the nurses ran in I cried out in mock anger:

"Why the devil do you leave a fellow alone like that, I've been sick into the bell!"

This was my last joke, and for the rest of the afternoon and evening I lay quiet enough.

The next day I felt unenterprising enough but in no pain or uneasiness. My weakness made it most natural and agreeable of all things to lie still and be talked to. The room I occupied opened from a hall, so a pleasant stir outside kept me gently alert. The doctors looked in during the forenoon, and now that the ordeal was over, threw aside their gravity and were as jovial as one could desire.

When they left me I looked vaguely through some books that were brought to me, and here became aware of my own collapse, for all allusion to sadness or affairs of the heart sent up a dew into my eyes. That afternoon my friends were admitted to see me, and my weakness came still more to the front. From five o'clock deep drowsiness came over me, and I lay as in lethargy with the lights carefully lowered. A faint jingle of tram-bells sounded far away, and the voices of Sunday travelers sometimes broke into my room. I took notice of every familiar occurrence as if it were something I had come back to from a distant country. The impression was very strong on me that I had died the preceding day and come to life again, and this impression has never changed.—John Synge, author of "*The Playboy of the Western World*."

Urinary Analysis.

The tests for sugar in the urine would appear to be sufficiently numerous, but the fact remains that errors frequently occur, and the substance in general use—Fehling's solution, has numerous disadvantages. Many of these are avoided by using Benedict's solution, which consists of:

Copper Sulphate	17.3 gm.
Sodium Citrate	173 gm.
Anhydrous Sodium Carbonate	100 gm.
(or Crystalline Sodium Carbonate).....	200 gm.

Dissolve the copper sulphate in 100-150 c.c. of distilled water, and add slowly with constant stirring the other ingredients dissolved in distilled water and filtered; this should amount to about 800 c.c. Finally, make up to 1 litre with distilled water. For use, take about 5 c.c. of the solution, add about 8 drops of the urine to be tested, and boil for one or two minutes. When glucose is present, there will be a bulky precipitate of a red, yellow or green color. The solution keeps well, and is not appreciably affected by creatinin, uric acid, chloroform or the simple aldehydes.

In testing for bile pigment in blood and urine, Pakscher and Gottmann employ a 5 per cent. solution of iodine in ether. One c.c. of this reagent is added to 5 c.c. of urine and shaken. After separation, the lower layer (of urine) is colored green if bile is present, and this color becomes more accentuated if the urine is subsequently shaken up several times with fresh ether. To apply this test to the serum, the albumen is first removed by shaking with alcohol (2 of serum to 3 of alcohol) and filtering. The filtrate is diluted with water, acidified with 25 per cent. hydrochloric acid and tested with the ethereal solution of iodine as before.—(*Practitioner*, No. 3, 1914.)

The American Association of Clinical Research

JAMES KRAUSS, M. D., Permanent Secretary and Editor.

Analysis.

When we have unquestionable data of observations of clinical phenomena at hand, such as we may have with the conjoined clinical test described in the April issue of the MEDICAL TIMES, we have the basis for clinical research.

Research really begins with analysis of data.

By analysis, we go from the complex to the simple, from the concrete to the abstract, from data to facts, from facts to laws and principles of facts.

Observations of a specific character in distinct relationship with other observations of a specific character, corroborated by a conjoined observer, may undoubtedly be accepted as facts.

PSYCHOTHERAPY IN GENERAL PRACTICE.*

SHELDON LEAVITT, M. D.

MEMBER AMERICAN ASSOCIATION OF CLINICAL RESEARCH.

Chicago, Ill.

In the scramble for specialties the ranks of general practitioners have been decimated more than once during the last three decades, and some think that the family physician is doomed to extinction. But I believe that a reaction is nearly due. We may not live to see it attain full force, but, out of the complexities of the present will spring a simplified medical practice which will have for its direct object the prevention and cure of disease, rather than, as now, so largely its recognition and prognostication. It will represent the swing of the pendulum from the materialism of modern medicine to a revised and rationalized spirituality.

This prediction is based upon the dawning belief that in some way the origin of disease reaches back of infection, whether of one kind or another, and is to be traced to pathological modifications at the great cerebro-spinal centers, and hence can be cured only by remedies of a subtle kind, capable of awakening mental reflexes and controlling the output of the fine, but potent, impulses sent to the various organs of the body. Pathology as now developed will lose its ambiguities and uncertainties when it is known that non-conformity to simple psychic laws is the vice upon which, in general terms, physical changes indirectly depend. The kind of work now being done will have a place in medicine, but it will be subsidiary to research work of a kind that every clinician can easily practice in the discharge of his daily duties.

I am persuaded that psychotherapy with its easily comprehended principles and modes of practice is destined to displace much of the present technique, and find its application at the hands of those who, like the family physician of sentiment and sense, get close to the hearts of the people.

That day of better things will dawn as does any other day, not in one burst of glorious light, but with slowly outlining eastern hilltops on somber shades, these reluctantly giving place at last to the warm Aurora hues and a full day. Hoping that it may be hastened thereby I am going to indicate certain plain truths, most of which are already known to you, though still command-

Subjective symptoms are facts when they are given as the spontaneous description of complaints for which relief is sought, when they appear and reappear with more or less regularity within certain limits: at the same locality, in a given sequence, under characteristic circumstances, and when there are objective signs pointing also to the same pathological process.

Objective signs are facts when they harmonize with the subjective symptoms, when they are clear and distinct, described minutely and comprehensively or brought within ocular demonstration by tests, specimens or photographs.

From these facts, we proceed to analyze the relationship of the facts.

JAMES KRAUSS, M. D.

ing little place in your practice, and their application to medicine as now interpreted by the general practitioner and utilized by him in his daily rounds.

I have had my fingers on the mental pulses of many fellow physicians struggling in vain with stubborn disorders, and have observed how their depression has given way to exhilaration upon finding help for their patients through use of simple psychological aids. What I have to say in this paper is intended for those earnest and honest souls, loosened from bondage to a single principle of cure, who are sure that they have not arrived at the acme of their efficiency, and are still willing to be taught. My message is to the open-minded and the complacent. "He that hath ears to hear, let him hear!"

Now let us pick out the meat of the nut.

I. In your first visit to a patient make the immediate situation as serious as the facts justify, but give a favorable and confident prognosis.

The very opposite of such a course is often followed. The patient is told that there appears to be nothing serious impending, but that there are certain ambiguous features behind which may lurk a grave lesion. This is a most unwise suggestion for a physician to make if he aims to get a quick and satisfactory cure. Fear is the very emotion he should aim to protect the patient against. How much better to say, if the intention is to hedge against the danger of overlooking a lurking menace, "You are sick enough to make me enjoin vigilance. You may be ill longer than you now promise, but there is no cause for alarm. The situation can and will be controlled." In response to such an assurance the patient will at once turn all his help into right channels, instead of becoming a victim to fears of an ambuscade.

II. In emergencies show by your words and acts that you are not taken by surprise, and that you can successfully cope with the exigencies of the hour.

In crises there is no tonic equal to that of the enthusiastic confidence of the physician in charge. When strange symptoms arise, the patient's already anxious emotions are liable to culminate, and if he can plainly see in the entire demeanor of his attendant every evidence of adequacy, his agitation ceases and the menacing tide of fears begins at once to ebb. An expressed doubt at such a time may prove fatal.

III. In exercising precaution, beware of instilling fear.

Frequent visits, constant vigilance, much temperature

*Read before the Fifth Annual Meeting of the American Association of Clinical Research at Chicago, November 7, 1913.

and pulse-taking, the installation of more than a single nurse, and all such attentions, while often useful, are to be avoided as far as safety will allow. In all but grave cases it is far better not to start up the machinery that the patient and his friends usually associate with desperate conditions. Put yourself in the patient's place and fancy how unavoidably you would harbor the thought of great danger should you when ill be subjected to such treatment as modern practice so often gives. The enforced quietude and solitude, the stealthy step, the whispered conversations, the sidelong glances, the frequent visits and the anxious countenances, all these to the patient portend trouble and engender detrimental fears. Many a patient has been doomed to death by his well-meaning, but unwise, medical attendant.

IV. Accompany your remedies with minute directions, and advise the patient of their hoped-for effects.

It is not enough to choose your drug and to leave specific directions for its administration. I advise you to take your patient into your confidence and tell him what effects you expect; but you must not infer from this that I have no faith whatever in the effect of the drug itself. Some of you may have more confidence in the efficiency of the remedy *per se* than I have, but we are agreed that an action is far more likely to ensue when it is expected with all confidence by both physician and patient. To think otherwise would be to deny the potency of a suggestion.

On occasion give some thought to the formation of a formula by which to convince the patient that you have discovered the remedy *par excellence* for his case and to set his anticipations on edge for the development of confidently-predicted symptoms. In my early practice I unwittingly produced symptoms quite unlike those intended to be elicited by my remedy, owing to the patient's assumption that it was given for that purpose which had been realized. You have many a time been greeted with the report that your remedy had produced its intended effect by producing sleep, quieting a restlessness or loosening the bowels, when, in giving it, you had no such effect in mind.

Then make your suggestions clear, strong and in line with the effects sought.

V. Do not in any possible way give the impression that you think the case is not going right, unless you couple with the admission the assurance that you have found the right string to pull.

Give a fresh example of your courage and confidence by your unruffled demeanor. A patient studies the words, the facial expression and the very movements of the physician. Even his reticences are liable to be interpreted as signs of grave apprehension. I have seen patients become alarmed to the point of serious injury over the answer to a question which, though calculated to sustain the sufferer's courage, was not given in as strong terms as the questioner hoped for. Keeping the patient well assured is more than half the battle.

"But what if my predictions do not prove true?" asks a conscientious physician.

If you have been attentive and vigilant nobody will be likely to condemn your optimism. But what if some one does? For your comfort you will have the reflection that, in maintaining strong hope and freely venting your optimism, you gave the victim the best chance for his life; for when hope is dashed to the earth, disintegration easily finds its way to the heart of physical life.

VI. Resort to every means to arouse the animating emotions in both patient and friends.

I have not been beside the mark in telling you what not to do, for there is a deplorable tendency among physicians to follow pernicious methods with their patients, even when sincerely trying to avail themselves of psychological aids. But my negatives are not as numerous nor as emphatic as my positives. The positive emotions are the motive power of life. Without them we should be unable to endure the discomforts and trials which beset every human being, and which would be multiplied many fold by negative states. Disease is usually an indication of submissive mentality in one's attitude toward physical conditions, and it is no wonder that those who are out of physical tone are unable fully to sense the desirability of life. The very ill become indifferent, and it ought to be one of the foremost aims of the physician to stir up the sleepy feelings by means of proper suggestion and other prodding. Just as it is possible to rout pain by psychic processes, such as instruction, inspiration, persuasion, command and suggestion, so is it possible, as I have repeatedly demonstrated, to inject good cheer and courage by the same means. A few minutes of each visit given to such an effort is of greater curative value than twice that time spent upon differential diagnosis, especially when it is true that diagnosis would make no material difference in the nature of the treatment. Put forth every effort to get the patient's emotions of courage, hope, enthusiasm and will (for even will has an emotional side) into motion, and you will be sure to witness the effects of mental dynamics.

VII. Surround your patient with an atmosphere of exhilarating hope.

Too little attention is given by physicians to this feature of management. Choose for your nurses women who are cheerful, reticent and optimistic. Physicians themselves, whom nurses are disposed to emulate, are too much inclined to emphasize the unusual and exceptional rather than the common course of disease, and to dwell on the dark phases of grave disorders; and against this depressing tendency they should stoutly set their faces. And they must not forget that the nurse who gives every assurance to the patient, sometimes busies herself in telling discouraging tales of disease to the friends and relatives, thereby creating about the patient a most unwholesome atmosphere.

I am sorry to say that physicians are also guilty of like misdemeanors and stand sadly in need of reproof. They usually do it as a precautionary measure, it is true, and in some cases from real ignorance of the effect of their action. If, owing to the lack of proper intrenchment in the good graces of the patient or his family, the doctor is disposed to give a conservative prognosis, let him state the dangers as they are, to those entitled to know, and supplement the statement with strong assurances of a happy outcome conditioned on proper support being given him. By so doing he can shift much of the responsibility upon others and thereby gain a decided point for the patient. There ought to be coupled with this statement a dissertation on the value of confidence on the part of all related to the case. Let them be welded into a single agent working for a single purpose.

I can summarize what I have so imperfectly expressed to you, in a few words. Then listen! *Aim to establish and maintain in every patient who has not passed beyond the pale of hope, an assurance of recovery.* This action may prove his salvation. *At the same time*

endeavor to arouse all his strong emotions into full action, and give them wise direction and continued support. And I add, in the case of infants or unconscious patients create and maintain the right mental atmosphere in the sick room and otherwise proceed as you would with others.

Nothing has been said about the precise modes of doing all that I have suggested, for they are of small relative importance. Every physician must follow the methods to which he is best adapted by temperament and training. The fundamental design should be to apply the principles which I have outlined. Not all can accept them, and few will be able to apply them with distinguished success. The true physician is born and not made. "He that hath ears, let him hear!"

THE CHEMISTRY OF NEURASTHENIA.*

JOHN AULDE, M. D.

MEMBER AMERICAN ASSOCIATION OF CLINICAL RESEARCH,
Philadelphia, Pa.

While no statistics are available, we can make a rough estimate as to the prevalence and increasing frequency of neurasthenia by the number and extent of sanitariums conducted for the treatment of nervous disorders—and it is rare to find patients suffering from nervous disorders without an outcropping neurasthenic element.

Incident to a well marked or typical case of neurasthenia the deviations from normal are legion, anatomic, physiologic, psychologic and symptomatic, and a vast amount of literature has accumulated, but no one, as far as I am aware, has made an effort to master the disorder by a study of its chemistry. For example, taking the literal meaning of the word, "nerve weakness," we should make inquiry as to the probable nature of the cause when the motor and sensory centres are involved. If we can determine this with a reasonable degree of certainty, then we can proceed to study the effects of the same cause upon the nerve trunks and branches, and later, upon the vaso motor nerves. If the working hypothesis is correct, the procedure could be reversed—when the demonstration is complete.

Starting now, with the proposition that neurasthenia is merely one of the ocular manifestations of impaired nutrition involving the brain structures, let me attempt to trace this nerve weakness to a chemic deviation in the body fluids—blood and lymph—because such an abnormal condition must affect the tissues in like manner.

Let us suppose that as a result of impaired digestive capacity, the normal alkalescence of the blood is diminished; the acid excess not only lessens the oxygen-carrying capacity, interfering with oxidation, but also depletes the calcium content of the tissues, including nerve tissue. Bearing in mind the relative proportions of calcium and magnesium in the human brain, 1 part to 10, we get a faint glimpse of the deranged co-ordination likely to ensue—when it is added that coincident with calcium depletion, there is substitution by magnesium.

At this point, my hearers will say the premises are incorrect and the deduction unwarranted, but that is neither evidence nor argument. Precisely, the same question was brought to the attention of the Association at the last annual meeting (*The Acid Test in Therapeutics*), and I have elsewhere (*The Medical Record*, New York, June 7, 1913), discussed more fully the fundamental bearings of this important and far-reaching

hypothesis. Stated briefly, experimental investigation shows that an unsuitable dietary, crackers, for instance, while containing a minimum of proteins, fats and carbohydrates, will set up an indigestion, leading immediately to a daily loss of lime far in excess of the intake, while the daily loss of magnesium in excess of the intake is insignificant. Such is the evidence furnished by experimental research on the part of Messrs. Sherman, Mettler and Sinclair (*Calcium, Magnesium and Phosphorus in Food and Nutrition*, Washington, D.C., 1910), of Columbia University, New York. Clinical research confirms the experimental work at every point, showing beyond question that the chemistry of neurasthenia hinges upon calcium depletion, because the internal administration of calcium promotes recovery, provided of course, that the dietary is regulated and proper measures taken to neutralize acid excess.

When this condition obtains; that is, calcium depletion—we can readily understand how mentation may be deranged, but we cannot say why neurasthenia should develop instead of insanity or mania. This question is pertinent and yet difficult of solution. Perhaps the following record will serve to shed a new light on the pathology of acute mania, the case having been submitted to me by a medical friend while we were dining together.

The patient is a female, married, age 40, and had enjoyed good health until this attack which came on suddenly three or four weeks previously. The urine was strongly acid, of high specific gravity (1.036), loaded with albumin and sugar and showed indican in excess. Nutrition was maintained by introducing liquid foods into the stomach by means of a tube passed through the nose, and a nurse was in constant attendance—to protect the patient from herself—while several consultations with an eminent nerve specialist had yielded no results.

Treatment advised covered three distinct deviations from normal, namely, acid excess, calcium depletion (magnesium infiltration), and intestinal fermentation. Improvement was perceptible within three days, and convalescence well established at the expiration of ten days, complete recovery being uneventful.

By way of analogy, let us assume that acute mania is an advanced stage of nerve weakness. We know that there are at least two causative factors responsible for its appearance; impairment in nutrition and toxins, and in the case mentioned, it was assumed that the toxins resulted from disordered digestion, and this latter assumption was confirmed by the excessive output of indican, together with the low percentage of urea.

Of course, it is not claimed that belief and experience alone constitute scientific evidence, but these are practically all that we have as a preliminary basis in clinical research. Therefore, it will be the part of wisdom to analyze the different factors, and see how nearly they dovetail with therapeutic application, and thus I shall avoid the charge that magnesium infiltration is an amorphous conceit. Undoubtedly, at the root of this trouble lies the real pathology, impairment in nutrition coupled with toxins. Hence, our first effort was directed to diminish the supposititious bacterial flora, by means of the lactic acid bacillus—and this in liquid form was administered freely added to the liquid food. However, without restoring as far as possible the normal alkalinity of the blood, this treatment alone would have been of little service, because

*Read before the Fifth Annual Meeting of the American Association of Clinical Research at Chicago, November 8, 1913.

a diminished alkalinity of the blood means impairment of its oxygen-carrying capacity, and suboxidation is the real obstacle to progress, leading to various occult symptoms, and interminable varieties of degenerative changes. To overcome this serious difficulty, it is necessary to administer remedies which will act as alkalies, together with other remedies which are calculated to maintain the saline character of the blood, and this may be accomplished by means of what I shall call alkaline-saline treatment. For this purpose I have used with invariable success a combination containing equal parts of sodium sulphate and phosphate, to which is added an appropriate lithia salt. Usually given in the form of an effervescent powder, it was not practical to administer this combination by the stomach, and it was necessary then to prepare in solution, and administer by enemata after effervescence had ceased.

The next and final step in treatment was based upon the belief and experience that in all such instances, consecutive to diminished alkalinity of the blood, there is calcium depletion, and calcium depletion means substitution by magnesium. Bearing in mind that the average daily intake of calcium in healthy adults ranges from 10.5 to 15 grains, it was assumed that this patient had been losing calcium daily, and that it was necessary to recoup the system, and at the same time, make sure that a sufficient amount of the salt should be taken to promote magnesium dissociation according to the law of mass action. The dose determined upon was 15 grains of a normal trituration (equal parts of calcium phosphate and sugar of milk), three times daily, the same to be given with the liquid food, along with the lactic acid bacillus.

It will be worth while to comment briefly on the employment of calcium salts (phosphate, carbonate, sulphate) when we have to deal with calcium depletion, because there are several viewpoints to be considered, as follows:

First, it is a necessary nutrient, and as essential to maintain function as to promote bone-formation.

Second, in cases of both acute and chronic ailments, characterized by a daily loss of calcium, it is necessary to administer the salts in excess of the ordinary demands of the system for the purpose of promoting magnesium dissociation, because it has been demonstrated time and again that magnesium nucleo-proteids do not functionate as normal nucleo-proteids.

Third, finally it must be understood that all calcium salts, whether organic or inorganic (when mechanically tritured), are changed in the body fluids into colloids, and that they possess catalytic action.

Perhaps this latter peculiarity requires some explanation. For example, if the inorganic salts are administered in crude form, the likelihood of absorption is remote, indeed, but when thoroughly tritured by mechanical processes, absorption is prompt, and distribution thorough. In fact, the beneficial effects of inorganic calcium salts are frequently so prompt that belief is almost incredible. With the crude drug, however, the effects are uncertain, and it is doubtless for this reason that strenuous efforts have been made to advance the theory of employing colloidal salts artificially prepared.

Coming now to the application of these principles in the treatment of neurasthenia, the ordinary physician will have very little difficulty, because with the exception of varying the dosage, the treatment of all these cases is practically identical; that is, provided we have to

deal with the various factors as outlined in the case of acute mania. When we have reasonably good grounds for the belief that such and such things are correct from anatomic, physiologic and chemic investigation, and knowledge and experience constantly confirms this belief, we are in a fair way to make substantial progress, because we have established certain definite principles by induction. Then, by deduction, we arrive at the general proposition and thus, we have demonstrated the correctness of the working hypothesis.

Now, while it is true that neurasthenia is dependent primarily upon impairment in nutrition with the presence of toxins leading to diminished alkalinity of the blood and coincident loss of lime or calcium, it does not follow that treatment will result invariably in relief, because we may have to contend with the remote effects which have developed as a result of the chemic deviation—and it is a fact, that we frequently have difficulty in determining the character or peculiarity of the various degenerations which may be present, such as amyloid, calcareous, colloid, fatty, hyaline and mucoid. In addition, we must bear in mind that involvement of the brain tissues by adventitious deposits of magnesium may lead to inflammation followed by cell proliferation, so that in addition to the degenerative changes taking place, indefinite fibroid changes may also complicate the treatment, and seriously interfere with perfect recovery.

Having now settled the question relating to the possibility or probability of recovery from neurasthenia, it must be admitted that we cannot form a definite prognosis in advance of preliminary treatment. Furthermore, it will be apparent to the intelligent physician that there is no occasion to fear a relapse, provided proper attention be given to the dietary, avoiding "sloppy" foods, animal foods containing nitrogen in excess, and all foodstuffs carrying an excess of magnesia.

This paper would be incomplete without a brief reference to my conception of the constitutional effects to the chemic deviation designated acid excess, especially as they relate to neurasthenia. Let us suppose that an unsuitable dietary such as I have mentioned, leads to calcium depletion and that the proportion of calcium in the brain tissues is reduced from 1 part in 10 to 1 part in 20, we can readily understand how such an effect would necessarily lead to mental inordination. The working hypothesis assumed at least three different varieties or types incident to calcium depletion. For example, in the case of children suffering from acute bowel troubles, the acid reaction of the intestinal contents necessarily depletes the nerve tissues locally. This condition, I have designated simple replacement, because with or without an intestinal antiseptic, these children promptly recover following the administration of suitable lime salts—and with a properly selected dietary, there are no relapses. Again, in the case of adults suffering from neurasthenic symptoms, the onset is gradual, the "nervousness" does not appear over night; hence, simple replacement does not cover the pathology. However, there are certain physical and chemic changes going on constantly in the body fluids, and it is no stretch of the imagination to assume that magnesium may be acted upon by the oxidase, a constant product of cellular activity, thus producing magnesium oxide. Chemists have shown how readily magnesium oxide will unite with organic colloids, and since nerve structure is a colloidal substance, it seems a practical as well as a theoretic view to assume that we have such a chemic transformation.

Assuming further that this chemic transformation produces a low grade of inflammation, it seems the part of wisdom to attempt removal of the inflammatory products, both organic and inorganic, a rather complex problem in therapeutics.

In the early history of my investigations of this question, it seemed more than likely that good results would attend the employment of an alterative combined with calcium, and preliminary treatment was conducted upon this basis. Unfortunately, the results were exceedingly unsatisfactory—it appeared that the alterative effects of iodine produced a nervous excitability out of proportion to the dosage, and it was some time before I could fathom the mystery. Later, I conceived the idea that these tissues had been robbed of their normal calcium content; that magnesium had been substituted with the ultimate effect of producing more or less inflammatory action—reaction—in which case absorption of the organic material would seriously disturb nerve conduction. Using the same dose of calcium iodide as originally adopted, and adding one or another of the other salts, phosphate, carbonate or sulphate, either in large or small dose, the "nervousness" attending treatment entirely disappeared. Thus, the important chemic problem was solved satisfactorily by clinical research.

Finally, another type of magnesium infiltration occurs in advanced age, and it is not unusual to find neurasthenia as well as other mental symptoms due to this peculiar condition, which I have designated magnesium united with calcium. For example, take a person 60 years of age or over, and we have calcium depletion with the various manifestations incident thereto, and as this condition advanced, the inflammatory action is complicated by deposits of calcium—this condition is usually referred to as calcareous degeneration, the presence of magnesium as the contributory cause being overlooked or neglected. In such cases, we can prove the correctness of the theory by promoting absorption of the calcium through the internal administration of aromatic sulphuric acid. Later, we have to deal with the original pathologic condition, and provided the organic structures remain intact, it is quite possible to restore function.

In concluding this somewhat sketchy paper, I cannot resist the temptation to emphasize my belief in the theory that demineralization rests almost entirely upon the calcium content of the tissues, and such being the case, I feel warranted in entering a protest against the modern fads relating to diet.

For all practical purposes, it is not too much to say that the modern breakfast is responsible for neurasthenia—and the same is true as regards all chronic ailments. We attempt to combine the customs of the tropical and subtropical residents with the habits of the temperate zone, by combining into one meal, fruits, cereals and coffee, with or without eggs, fish or meat—a combination which is discreditable alike to the sense of taste and intelligence. Dwellers in the tropics take their fruit and coffee about eight o'clock in the morning, and their breakfast about eleven. Residents of the temperate zone cannot understand how the fruit acid inhibits the flow of gastric juice, neither can they appreciate the disadvantages of cereals, which make no demand upon the salivary glands. As a result of this misconception, intestinal indigestion is almost universal, and along with this, of course, goes a diminished alkalinity of the blood, when the setting for neurasthenia and other chronic ailments is complete.

Obstetrics and Gynecology

Management of Prolapse of the Ovary.

Chauncey D. Palmer of Cincinnati has found the left ovary is more often prolapsed. A primary displacement when the alteration has no antecedent pathological change; secondary, when such morbid variations exist.

Primary displacements are usually traumatic in origin and precipitous in action; secondary, are slow and insidious in causation, and gradual in manifestation.

Most cases are secondary and the patient notes backache and sensations of pelvic weight and heaviness, especially at the periods of ovulation and menstruation. More pronounced and characteristic symptoms are pain during defecation, continuing, it may be, for hours after unless the stools are free and soft. Sexual intercourse is always painful. There is usually menorrhagia and dysmenorrhea.

Constitutional symptoms are such as are usually manifested in many female pelvic diseases. The diagnosis is easy, yet may be confounded with a retroflexed uterus, with an extra-uterine fibroid, situated on the posterior uterine wall, or with the presence of a chronic pelvic inflammatory exudate. A careful bimanual method of examination of the vagina and rectum makes clear the nature of the case. From the first condition, it can, if needed, be safely differentiated by the gentle insertion of a thoroughly sterilized, flexible, copper uterine sound, followed by rest; and, from the latter, by the careful history of the case, and by the continuance, if not the persistency, of the retro-uterine morbid mass, unaltered by taxis, with the patient in the knee-elbow posture.

A prolapsed ovary is at times a tender, pulsating body—the most disturbing cases.

It is most important to effect a complete and permanent rectification of the displaced ovary. Strict attention must be given to obtaining daily by diet, and by medicine if necessary, a full, free, soft, easy evacuation. In the next place, adjust the patient's clothing about the waist, and suspend it from the shoulders. Have properly fitting corsets. Reduce the intra-abdominal pressure from above upon the pelvic viscera. Direct the patient to assume the genupectoral position of the body, with the chest resting on the mattress of the bed (face turned of course to either side), while the pelvis is elevated to the utmost. Do this early in the morning after the alvine evacuation, and in the evening. Each time should consume about twenty minutes. The patient should always avoid lying on the back; always rest in the recumbent position, on either side, somewhat semiprone.

Constitutional treatment by medicinal agents and hygienic measures are advantageous because of anemia, debility, general nervousness and insomnia. Prolapse of the ovary is usually detected in debilitated, sensitive, and neurasthenic conditions of the system. Always, then, endeavor to elevate the standard of the general health by all reasonable hygienic measures.

In most instances of ovarian prolapse there is more or less menstrual disorder. The menstrual flow often appears too frequently, is usually prolonged in time, as well as increased in quantity. Local means may be needed to keep the vaginal canal clean, the pelvic congestion reduced, and its circulation regulated.

Use no mechanical supports for ovarian prolapse. Vaginal tampons, constructed by absorbent wool, soaked with the thymolated boro-alumino-glycerite, are better. Let the patient assume the genupectoral posture, when

gentle taxis is applied to readjust the ovary. With Sims' speculum retracting the perineum and the posterior vaginal wall the vaginal surfaces are cleaned with dry absorbent cotton and the wool tampon is firmly packed into the posterior vaginal cul-de-sac, and there allowed to remain for two days. A hot vaginal douche should follow its removal. The patient then experiences more or less comfort, from the reason that the downward movement of the displaced ovary is counteracted and mechanically supported by the wool; and the congestion is diminished by the hydrogogue action of the glycerite. Palliation may follow these procedures, so much so that further treatment may not be required.

But surgical treatment is clearly indicated in many cases because the above-mentioned means sometimes fail.

The operation of oöphorectomy may have to be done on account of some serious structural changes of the ovary. Whenever a complete oöphorectomy of one side is done, experiments prove that the remaining healthy ovary may take on a renewed activity, so much so that in from a few months to a few years in younger women a compensatory hypertrophy of the opposite organ has recompensed for the loss.

In some of these cases there unquestionably is a degree of distinct chronic ovaritis. The left-sided pain complained of is more continuous, persistent and severe than the right.

The Faradic electric current, judiciously administered, will be found of signal service. Its application should be derived from a very long wire, at least 1500 yards; a number 36, with a mild, smooth electric motive force, and with very rapid interruptions of the rheotome—the more rapid the better. Any increase thereof should be very slow and gradual.

The strength of this current should be regulated by the sensations of the patient; it should never be productive of any unpleasant sensations; better only barely perceptible to her. The best results follow a 15 to 20 minutes' seance.

Such an electric current is distinctly analgesic in its effects.

The galvanic current is adapted only to chronic cases, which are probably associated with varied perioöphoritic morbid changes. Then, the positive pole, wrapped with moistened (salt water) cotton, is lodged within the posterior vaginal cul-de-sac, while to the negative pole is attached a flattened electrode, covered with gauze, thick in structure, wet with a potassium iodide solution, and placed over the lower abdominal surface. Electricity, in the various forms of the Faradic current and the galvanic, is a remedy of no mean power, in gynecological therapy.

There are no distinctive or fixed anatomical changes in painful or prolapsed ovaries. Most cases are noticed in neurasthenic women. Therefore, it is by a restoration of the nervous tone of the system at large, by a roborant plan of treatment, with manifest improvement of the general health that these sensitive organs cease to be tender, although somewhat downwardly displaced. It is to better the local circulation of the blood, and to improve the nervous condition of the patient, factors largely responsible for the symptoms present, that we must direct our attention in all of our treatment, both general and local.—(*Am. Jour. Med. Sci.*, April, 1914.)

Clonus in the Toxemia of Pregnancy.

Theodore C. Merrill of Washington observes that in the preeclamptic stage of gestational toxemia,

the occurrence of muscular irritability, as evidenced by twitching, is a well known sign of danger.

Ordinarily, according to familiar observation, eclampsia is preceded by the usual suggestive indices. The appearance of more or less conspicuous clonus in pregnancy, apart from special tetanies (epilepsy, chorea, or other) requiring diagnosis and management, commonly means that toxic products have accumulated to the very threshold of an eclamptic attack.

Such a condition too frequently connotes negligence on the part of patient, physician, or both. Negligence is almost always limited to the patient, and, in her case, is due to ignorance of the significance of preeclamptic signs. It is desired briefly to call attention to the importance of muscular twitching as a warning sign. Rural practice of some twelve years serves to point out the fact that patients who live at considerable distances from physicians, and, especially, patients who, besides being isolated, are more or less limited in means, frequently neglect the less obvious indications of toxemia and impending eclampsia.

For this reason, educational material should lay great stress on the importance of every symptom caused by toxemia, and special emphasis should be directed to the imperative character of the warning given by preeclamptic muscular tremor and clonus.

No book for prospective mothers, no leaflet prepared by nursing or other charitable organizations, no printed helps issued for this sort of prophylaxis, should fail to devote particular reference to this grave warning, which is not unusually the most conspicuous and the last signal which may save the patient's life.

So necessary has it appeared to call attention to the point thus emphasized, that thorough correspondence with representative obstetricians and gynecologists has just been concluded. Agreement is complete that preeclamptic clonus is a useful sign, important in the prevention of eclampsia.

The writer urges this point upon all those who are concerned in the work of prenatal instruction. Among all the evidences of toxemia, there is not one which points so forcibly to its presence, not one which indicates so positively the exhibition of active measures of elimination or more urgent treatment, such as bleeding or evacuation of the uterus.—(*American Journal of Obstetrics*, March, 1914.)

Colon Bacillus Infection of Uterus.

Eben Fosskett of New York notes that during the past three years, thirty-four cases of colon bacillus infection have been found in the service of Dr. H. C. Coe at Bellevue Hospital.

Ten had pyelitis or cystitis alone, unassociated with pregnancy or operative work. Most of these cases responded readily to the usual treatment with urotropin and soda benzoate, and a buttermilk diet. One was improved by high colon irrigations only. Four of the ten patients had no fever.

Thirteen of the thirty-four cases had conditions associated with pregnancy or the puerperium. Three of the thirteen were insane and of these three one was taken home unimproved at the end of a week, one (an incurable) was sent to a state hospital, where she gave birth to a healthy child six months later, and the third case died in the ward, having developed bronchopneumonia as a complication. She had been transferred from the insane pavillion. One of the thirteen was delivered because of eclampsia, one had a laparotomy for cyst of the ovary infected with colon bacillus, one died of colon bacillus infection of the blood.

(Continued on p. 20.)



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Each ounce of this mixture has a food value of 6.2 calories — affording sufficient nourishment and in a form readily assimilable.

(Continued from p. 264.)

A third group of five cases was operated on which had colon bacilli in the urine. In most of these the bacillus was present at the time of operation, or found within a few days. In one case, three weeks after operation the colon bacillus was found in urine and was probably a postoperative infection.

Infection of the fallopian tube by colon bacillus would be expected because of the possible modes of infection: by way of the uterus, by adhesions to intestines, ovary or peritoneum, rarely way of the lymph stream. Up to 1904 but eighteen cases were reported in literature, according to Dr. Frank T. Andrews. Wertheim reported 116 cases of pyosalpinx with no bacillus coli infection. Howard Kelley reported forty-three cases with no bacillus coli infection. A. Martin reported 2098 cases of purulent salpingitis with no bacillus coli infection. Proscher reports on forty specimens of tubes operated on after acute attack had subsided. Thirty-eight were sterile; one was infected by colon bacilli, one by staphylococcus albus.

The custom of waiting for the subsidence of acute inflammation of the tube before operating may be the reason for this. Even when infection of the tube has taken place, the pus may become sterile before operation.

Foskett adds one more case to the literature.

In colon infections the symptoms are usually high fever, abdominal pains, localized according to the seat of infection, though sometimes general; chills followed by exacerbations of fever; nausea and vomiting. The leukocyte count is usually high, and the polymorphonuclear count above 80 per cent. and in many cases 90 to 96 per cent. Urine is, as a rule, cloudy, acid, free from albumin. In five cases urine was alkaline and six had a trace of albumin; one a large amount of albumin with casts. Five had a few pus cells.

In the treatment of these cases in Dr. Coe's service, colon infection of urine was treated with hexamethylamin and sodium benzoate, and in nearly all cases high colon irrigations have been of much benefit. In cases of vomiting gastric lavage was done. A buttermilk diet was the rule. In reading of these colon bacillus cases in the *London Lancet*, it is noted that the profession in England believe that the growth of the colon bacillus is favored by acid urine; and they use potassium citrate with hexamethylamin to make the urine alkaline.

Foskett has seen in the cases reported some mistakes in diagnosis. Some are sent in with a tentative diagnosis of appendicitis when the real trouble is colon pyelitis of right kidney; others as puerperal sepsis when the infection is colon bacillus in kidney or bladder; some as acute salpingitis, some as typhoid fever. Most of these have been discovered before reaching the operative stage.—(*American Journal of Obstetrics*, March, 1914.)

For Pruritus Vulvae.

R Bismuthi Subcarbonatis,
Zinci Oxidi aha gr. x
Adipis Lanæ Hydrosi 3i
Misce. Fiat unguentum.

Or,

R Unguenti Picis Liquidæ,
Unguenti Belladonnæ ana 3ij
Tincturæ Aconiti 3ij
Unguenti Aquæ Rosæ ad 5i
Misce. Fiat Unguentum.

—(*Centralbl. f. d. ges. Therap.* No. 9, 1913.)

The symptoms of cervical rib may resemble those of a lesion of the first dorsal branch of the brachial plexus.

The Physician's Library

The Unconscious. By Morton Prince, M. D., Emeritus Professor of Nervous Diseases in Tufts College. Cloth, 547 pages, \$2.00 net. New York: The Macmillan Company, 1914.

Lectures given by the author at Tufts make up this work. It is an introduction to abnormal psychology, and is an exemplification of the inductive method of arriving at sound conclusions. He constructs the theory of the subconscious by this means, dividing it into two classes, the unconscious and the conscious. His conclusions appear sound.

Prince also develops the phenomena of the emotional dispositions which occupy so important a position in human personality and in the determination of mental and physiological behavior.

The book is a splendid introduction to the subject, and prepares the student for the deeper problems in psychological life.

Modern Surgery: General and Operative. By J. Chalmers DaCosta, M. D., Samuel D. Gross, Professor of Surgery, Jefferson Medical College, Philadelphia, Pa. Seventh edition, revised. Enlarged and reset. 1,515 pages, with 1,085 illustrations, some of them in colors. \$6.00 net; half morocco, \$7.50 net. Philadelphia and London: W. B. Saunders Company, 1914.

The seventh edition of this standard work on surgery is like its predecessors, only more so. They were authoritative, according to the surgical light of the year in which they appeared. This edition is the very latest in surgical literature and many surgeons will deem it the best. Be that as it may, this master mind in surgery has produced a book of such breadth of surgical vision that hard indeed will be the task of the author who attempts to surpass it. Not only does DaCosta give his own opinions, but he quotes liberally and literally from the written works of others, so that each subject is covered in symposium style.

DaCosta places the medical profession in his debt for this monumental work.

Osler's Essays. Two volumes, neatly boxed. Vol. 1, Man's Redemption of Man. Vol. 2, A Way of Life. Cloth, 63 pages. Price, 50 cents each, net. New York: Paul B. Hoeber, 1914.

These two essays are well worthy of preservation in permanent form. The first is a lay sermon delivered in Edinburgh and the second is an address given at Yale University. Those familiar with the author's style will find these gems among his best.

Treatment of Chronic Leg Ulcers. By Edward Adams, M. D. 122 pages. Cloth, \$1.00. New York: The International Journal of Surgery Company, 100 William Street, 1914.

This little book contains a clear exposition of the subject and conveys a vast amount of valuable information. It is worth careful perusal.

The Junior Nurse. By Charlotte A. Brown, R. N., Instructor in the Boston City Hospital. Cloth, 208 pages, illustrated. \$1.50 net. Philadelphia and New York: Lea & Febiger, 1914.

This is a useful book for beginners as it contains much of practical value. The chapters on the qualifica-

(Continued on p. 22.)

IN THE SUMMER FEEDING OF YOUNG INFANTS

the safest and most satisfactory substitute for mother's milk is Trommer Malt Soup. Unfortunately, too little attention has been paid in the past to the diastase-ferment and carbohydrates that are found in human milk and which play such an important part in infant nutrition. In fact most artificial infant foods contain no diastase whatsoever. It is not surprising, therefore, that the use of these foods is so often followed by malnutrition.

To those who have realized, however, the importance of diastase in the artificial feeding of infants Trommer Malt Soup has solved the problem. Easily made with



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many a physician has learned during the past forty years to turn to this standard extract of malt when confronted by the necessity of providing a safe and suitable diet for infants denied their mother's milk.

The simplicity and convenience of the food thus produced not only make it especially appealing but it is so easily and quickly prepared that the amount required for each feeding can be made up as needed, thus avoiding the dangers of contamination that always menace the food that must be kept standing.

Babies placed on Trommer Malt Soup do splendidly and the gain in weight, vitality and strength leaves nothing to be desired. The effect on the alimentary processes is particularly gratifying and it is a notable fact that infants fed with this food are remarkably free from digestive disturbance. This naturally suggests the use of this food during the heated season, and summer diarrhea rarely afflicts infants thus nourished.

It is a fact of no little significance that medical men who once commence the use of Trommer Malt Extract in the modification of cows' milk rarely if ever return to any other food. The results obtained make it entirely unnecessary.

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¶ CITROLAX is an effervescent tablet of Magnesium Citrate and a nascent double salt of citro-tartrate of Sodium and Potassium. For the prevention of a coitive after-effect a suitable amount of Phenolphthalein is incorporated.

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Samples to Physicians

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(Continued from p. 20.)

tions of the nurse, and her personal hygiene, on bed making and the admission of patients are especially helpful to the junior, while the sections on bandaging, emergencies, infectious and contagious diseases are useful even to those actively engaged in their life work.

The Ready Reference Hand-book of Diseases of the Skin. By George Thomas Jackson, M. D., Late Professor of Dermatology in the College of Physicians and Surgeons of Columbia University, New York. Seventh edition, thoroughly revised. Cloth. 770 pages, with 115 engravings and 6 colored plates. \$3.00 net. Philadelphia and New York: Lea & Febiger, 1914.

This useful handbook has been largely rewritten and is of unqualified value for the physician. After a description of dermatological anatomy and physiology, diagnosis, therapy and treatment follow and each disease, 257 in all, is thoroughly handled. The working formulae are especially good. Among the many subjects discussed are salvarsan, by Dr. J. A. Fordyce, vaccines and the x-rays by Dr. G. M. McKee, and many new sections have been added.

Practical Therapeutics. By Daniel M. Hoyt, M. D., of Philadelphia. Cloth. 426 pages. \$5.00 net. St. Louis: C. V. Mosby Co., 1914.

The value of this book is in its arrangement. It specifies the physiological action of a drug on the brain, spinal cord, heart, arteries, skin and intestines; the toxicology and its treatment; the therapeutic indications and contra-indications, all of which are necessary for intelligent administration.

All the drugs passed by the Council on Pharmacy and Chemistry of the A. M. A. are listed and described and the therapeutic index is an excellent feature. The book is a useful one and it is a pity the grade of paper used is not better.

Psychoanalysis: Its Theories and Practical Application. By A. A. Brill, Ph. B., M. D., Chief of Clinic of Psychiatry and Clinical Assistant in Neurology, Columbia University Medical School. Second edition, thoroughly revised. Cloth. 393 pages. \$3.00 net. Philadelphia and London: W. B. Saunders Company, 1914.

The second edition of this book is more valuable than its predecessor, as much new illustrative matter has been added and all the chapters have been revised. The addition of many analyzed dreams assists materially in elucidating the principles and they aid in the confirmation of the Freudian theories.

Drug Treatment of Diabetes.

In the treatment of diabetes mellitus, opium, of course, has long held first place among therapeutic agents. In the hands of many physicians Papine (Battle) has produced identical results with those derived from the administration of opium or codeine. The employment of small doses at the beginning, and thereafter increasing until the required effects are produced or until narcotic symptoms are exhibited, when the dose will be held stationary or reduced, is the practice usually followed.

A well kept history card is most essential in pediatric practice.



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THERAPEUTIC MEMORANDA.

The Treatment of Milk for Infant Feeding.—Von Dungern's process for treating milk by means of pegin is designed to prevent the deleterious clotting of the cheese making materials in the stomach. The large curds which otherwise form when milk first reaches the stomach are, by means of this process, formed outside of the body, and can then be speedily reduced by shaking and stirring. The casein of milk so treated is finely divided when taken, is therefore easily digested, and is well adapted for nursing children.

Milk treated with pegin is free from deleterious germs, and contains nothing which interferes with digestion.

Directions for use: All bottles and stoppers are to be well cleansed by boiling.

The milk required for the day is immediately upon delivery placed in a large glass bottle; the bottle should not be quite full. This is placed in a vessel containing cold water, and the water raised to the boiling point, which should be continued for half an hour. Milk for infants should not be diluted with water at this stage.

After boiling, the milk is cooled to about 40°C or 104°F. This cooling should be done gradually in order to prevent the breaking of the bottle. If the milk becomes colder than 104°F it is warmed again to this temperature.

To each quart of milk is added five measures of pegin, a measure being supplied with each bottle, or one measure full to each 8 ounces of milk. After the powder has been well mixed by shaking the milk for a short time, a delay should take place sufficiently long

for the milk to coagulate. This takes place within a few minutes, usually two or three. Should the milk not coagulate promptly it is highly probable that water has been added to it.

After the milk has coagulated the bottle is closed with a clean stopper, preferably glass or rubber, thoroughly shaken for a few minutes, or until all the clots have completely disappeared.

The milk is now ready for use. It must not be again strongly heated. If dilution with water is necessary, as with very young children, it should be done at this stage, but not more than an equal volume of water should be used for dilution. Boiled water, of course, is preferable for this purpose.

Milk thus prepared is kept in a well stoppered bottle in a cool place until required, when it is again shaken, put into the feeding bottle and warmed to 99°F, and given to the child.

The warming of the milk to the body temperature is best done by holding the bottle in lukewarm water. Stronger heating causes the finely divided curds to clot again. Milk must be again shaken in the feeding bottle.

There are very many instances when the food of a child does not seem to answer the purpose. Despite all the intelligent care of the attending physician, the child shows subjectively and objectively that its food supply is not furnishing sufficient nourishment.

In this class of cases the physician can well turn to pegin as it often gives the little patient exactly what nature demands.

Pegin is handled in this country by the Farbwerke-Hoechst Co. of New York, and can be obtained through any wholesale druggist.



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AUGUST CLINICS, DEPARTMENT OF PUBLIC CHARITIES.

MONDAYS.

City Hospital—		
Neurology	Dr. Steinach	3:00 P.M.
Randalls Island Hospital—		
Laryngology, Rhinology and		
Otology	Dr. Yates	9:00 A.M.
Cumberland Street Hospital—		
Surgery	Dr. Walmsey	3:00 P.M.
Laryngology and Rhinology	Dr. Stewart	4:00 P.M.
Surgery, Oral	Dr. Shea	4:30 P.M.

TUESDAYS.

City Hospital—		
Surgery	Dr. N. W. Green..	2:00 P.M.
Neurological Hospital—		
Neurology	Dr. Byrne	9:00 A.M.
Cumberland Street Hospital—		
Ophthalmology and Otology	Dr. Warner	3:00 P.M.
Surgery	Dr. Iler	3:00 P.M.
Kings County Hospital—		
Surgery	Dr. Bogart	9:00 A.M.
Obstetrics	Dr. Commiskey ..	10:00 A.M.
Genitourinary Surgery	Dr. Fraser	2:00 P.M.
Coney Island Hospital—		
Surgery	Drs. Fiske and	
	Bogart	10:30 A.M.
Surgery	Drs. Murphy and	
	Lack	10:30 A.M.
Medicine	Drs. Hall and	
	Nash	3:30 P.M.
Medicine	Drs. Hegeman	
	and Byington..	3:30 P.M.

WEDNESDAYS.

City Hospital—		
Obstetrics	Dr. Dorman	2:30 P.M.
Neurological Hospital—		
Neurology	Dr. Maloney	10:00 A.M.
Cumberland Street Hospital—		
Gynecology	Dr. Pierson	2:30 P.M.

Kings County Hospital—		
Orthopedics	Dr. Truslow	10:00 A.M.
Orthopedics	Dr. Napier	4:00 P.M.
Coney Island Hospital—		
Pediatrics	Drs. Beck and	
	McQuillan	3:00 P.M.
Pediatrics	Drs. Pendleton	
	and Van Wart..	3:00 P.M.

THURSDAYS.

City Hospital—		
Gynecology	Dr. Child	2:00 P.M.
Cumberland Street Hospital—		
Surgery	Dr. Walmsey	3:00 P.M.
Laryngology and Rhinology	Dr. Stewart	4:00 P.M.
Kings County Hospital—		
Surgery	Dr. Bogart	9:00 A.M.
Obstetrics	Dr. Commiskey ..	10:00 A.M.
Otology	Dr. Alderton	1:30 P.M.
Coney Island Hospital—		
Gynecology	Drs. MacEvitt and	
	Mills	1:30 P.M.
Gynecology	Drs. Mayne and	
	Rankin	1:30 P.M.
Surgery	Drs. Fiske and	
	Bogart	3:00 P.M.
Surgery	Drs. Murphy and	
	Lack	3:00 P.M.

FRIDAYS.

City Hospital—		
Laryngology and Otology	Dr. Dougherty ...	2:00 P.M.
Neurological Hospital—		
Neurology	Dr. Abrahamson..	9:00 A.M.
Cumberland Street Hospital—		
Ophthalmology and Otology	Dr. Warner	3:00 P.M.
Surgery	Dr. Iler	3:00 P.M.
Surgery, Oral	Dr. Shea	4:00 P.M.

SATURDAYS.

Neurological Hospital—		
Neurology	Dr. Walsh	2:00 P.M.
Kings County Hospital—		
Surgery	Dr. Bogart	9:00 A.M.
Obstetrics	Dr. Commiskey ..	10:00 A.M.
Gynecology	Dr. McNamara ..	1:30 P.M.

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A frank exposition of the method will be found in "The Physician's Guide"—a book written especially for the medical profession and sent free on request. Details relative to the time required for treatment and the definite charges are given therein.

This Hospital has no connection directly or remotely with any other institution. Consulting Physicians constantly in communication. Staff or residential physicians always in attendance.

Cigarette Paper Not Harmful.

Attention is drawn to the two-page announcement in this issue by James Zobian in behalf of the manufacturers of the "Philip Morris" cigarette, refuting the contention of Mr. Edison that the smoking of cigarettes is most harmful because of the poisonous nature of the paper in which the cigarette tobacco is wrapped.

The following communication has been received from Mr. James Zobian of New York, who points out the fact that the condemnation of cigarette smoking, by Mr. Edison—commented upon in our June issue, was centered exclusively and specifically upon the paper in which the cigarettes are wrapped. He says:

Mr. Edison has no objection to the use of tobacco, as he, himself, is known to be a constant and liberal user of cigars, pipe and chewing tobacco. Mr. Edison's statement was that he found poisonous matter in the paper wrapper of some twenty different brands of cigarettes which he had analyzed. Even in this case Mr. Edison has not proved his contention as yet, despite the fact that he has been challenged to do so.

Furthermore, Mr. Edison's attention was called to the many scientific investigations and chemical analyses made by the most reliable authorities, including the London *Lancet*, disproving the presence of any poison in the cigarette paper.

Readers will be interested in the announcement which appears in this August issue, accompanied by the facsimile of a certificate of chemical analysis, proving in an incontestable manner that at least the paper in which Philip Morris cigarettes are wrapped is free from any poisonous ingredients.

The same announcement has recently appeared in all the leading newspapers throughout the country.

JAMES ZOBIAN.

New York, July 14, 1914.

New Dress of Annals of Surgery.

Owing to the continually increasing amount of material of value, offering for publication in the *Annals of Surgery*, the publishers have found it necessary beginning with the July, 1914 issue to enlarge the size of the page and also to somewhat reduce the size of type in which the original contributions have heretofore been printed. Thirty years ago, when the first number of the *Annals of Surgery* appeared, the size and style then shown suited admirably. At that time a single number only contained 96 pages. They have continued to increase each year until now the average number of pages to an issue is 164. Special issues have been published in which the number has been increased to over 300 pages, with the result that the manufacturing of the Journal in the former style is not only extremely difficult but the finished product is unwieldy and cannot be read with the ease and comfort which is due a subscriber. In fact, it required constant pressure on the pages to keep them open.

The new form overcomes this inconvenience and enables the publishers to give the reader more material and greater comfort while reading than it could have been possible for them to present in the former size.

The July issue has a choice collection of important articles of exceptional value to the general practitioner as well as the surgeon. It is a splendid example of the way this publication continues to set the pace in surgery.

Acute infectious nephritis, that of hematogenous origin, characterized by multiple abscesses, is particularly amenable to surgical treatment.

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It will not disappoint you.

SIG: Administer in teaspoonful doses given in boiling water. Beware of imitations which thrive at the expense of your reputation and of this product. If you are not familiar with the therapeutic efficiency of the genuine H. V. C., write for a sample and be convinced.

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tions of codliver oil, and largely so because the medical profession has long recognized its superior worth. It may be given over long periods of time without causing gastric distress.

Sir Arbuthnot Lane says the individual who has bright red hair all over the body shows a minimum of evidence of auto-intoxication, having a remarkable resisting power thereto. The individual who has black hair on the head, pubes and axilla, develops the characteristic symptoms in a very marked manner, having a very lowered resisting power to auto-intoxication.

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But the food must be digested and assimilated: to stimulate the centres of assimilation and nutrition there is no better remedy at the physician's service than

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Toe Dislocation.

D. W. Deal, Springfield, Ill. (*J. A. M. A.*, April 4), reports a case of dorsal dislocation of the proximal phalanx of the great toe with a plantar displacement of the metatarsal and a fracture of the distal end of the metatarsal bone. Reduction was accomplished easily under general anesthesia and the end-results are perfect. The case is reported on account of its rarity, it being the twentieth thus far reported.

All in all, Phenalgin is one of the most valuable additions to the modern armamentarium. It is skilfully and carefully manufactured, and the physician can bank on its constant and unvarying uniformity. Its remedial value, every practitioner can easily prove to his entire satisfaction, and it is no idle statement that the manufacturers of Phenalgin ask its therapeutic preferment on no other basis than its demonstrable uniformity, safety and pain-relieving power.

Phenalgin—A Dependable Analgesic.

The general medical practitioners of the country are using Phenalgin more extensively than ever before. The reason for this is easily found in the exceptional efficiency of this well known remedy as a prompt and harmless reliever of pain. Unquestionably, one of the noblest missions of the physician is to alleviate physical suffering, even though he cannot always eliminate it.

A short time ago, recourse to opium and some of its derivatives was the only reliable means of satisfactory analgesia. One does not need to mention the fearful results that all too often followed the exhibition of this insidious drug. As appreciation of the effectiveness of Phenalgin has extended, the use of opium and its preparations for



relief of pain has materially diminished, and now the hypodermic syringe is rarely employed except in extreme or emergency cases.

A Dependable Preparation of Ergot.

Ergot is undoubtedly one of the most complex drugs in our materia medica. Each analyst endeavors to prove that the principle that he has isolated is the active principle of the drug, and that all others in ergot are subsidiary. The natural result is that the chemistry of ergot is a history bristling with optimism, pessimism, and numerous contradictions. In all probability the fact is that it is in the natural combination of all of these active principles that the ideal ergot efficiency is made possible. Certain it is that none of the principles thus far isolated will, when given as an individual agent, produce the full therapeutics of ergot in its entirety. It is, therefore, of vital importance to have a reliable, standardized preparation that will represent all of the active principles of the drug. Among other desirable features of the ideal preparation of ergot are palatability, concentration, miscibility, permanency, and suitability for safe subcutaneous use. The only preparation that seems to meet all of these requirements is Ergotole S. & D.

The Röntgen examination is a most important means for the diagnosis of esophageal lesions.

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Asthma.

Few diseases can cause more real suffering and distress than asthma. For this reason, as well as the well known tendencies of each attack to aggravate and increase any existing cardiac or circulatory weakness, the most careful and faithful attention should be given to its treatment. Many and various are the measures that have been employed, but among clinicians of the widest experience, iodine in one form or another is generally recognized as the most efficient remedy for reducing the frequency and severity of paroxysms of this disease. Of course, the immediate treatment of an attack calls for measures to relieve the spasm and attendant distress as quickly as possible. But when this is accomplished, efforts to prevent or reduce to a minimum future attacks must be promptly instituted, and it is in this direction that iodine has proven its efficiency.

As in all other instances, however, where iodine has been indicated, the gastric irritation that has usually resulted from the particular salt or preparation of iodine employed, has all too often made it impossible to administer this potent remedy as continuously or in as large dosage as needed to produce the desired results.

ALIENIST—Grade 4

Application for examination for this position will be received from

Aug. 3rd to 4 p. m. Aug. 17th.

Candidates must be qualified examiners in lunacy of State of New York, and must have experience in care and treatment of insane.

Salaries range \$1,200, \$1,350, \$1,500, \$1,800, \$2,100.

Applications for this position previously filed need not be renewed.

Application blanks may be had at the Application Bureau, Municipal Building, Room 1400, or sent by mail on receipt of stamps.

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